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F16a

SCZ-NOID-0002-25 (YOUNGER LAGOON BEACH ACCESS MANAGEMENT PLAN)

NOVEMBER 7, 2025 HEARING

EXHIBITS

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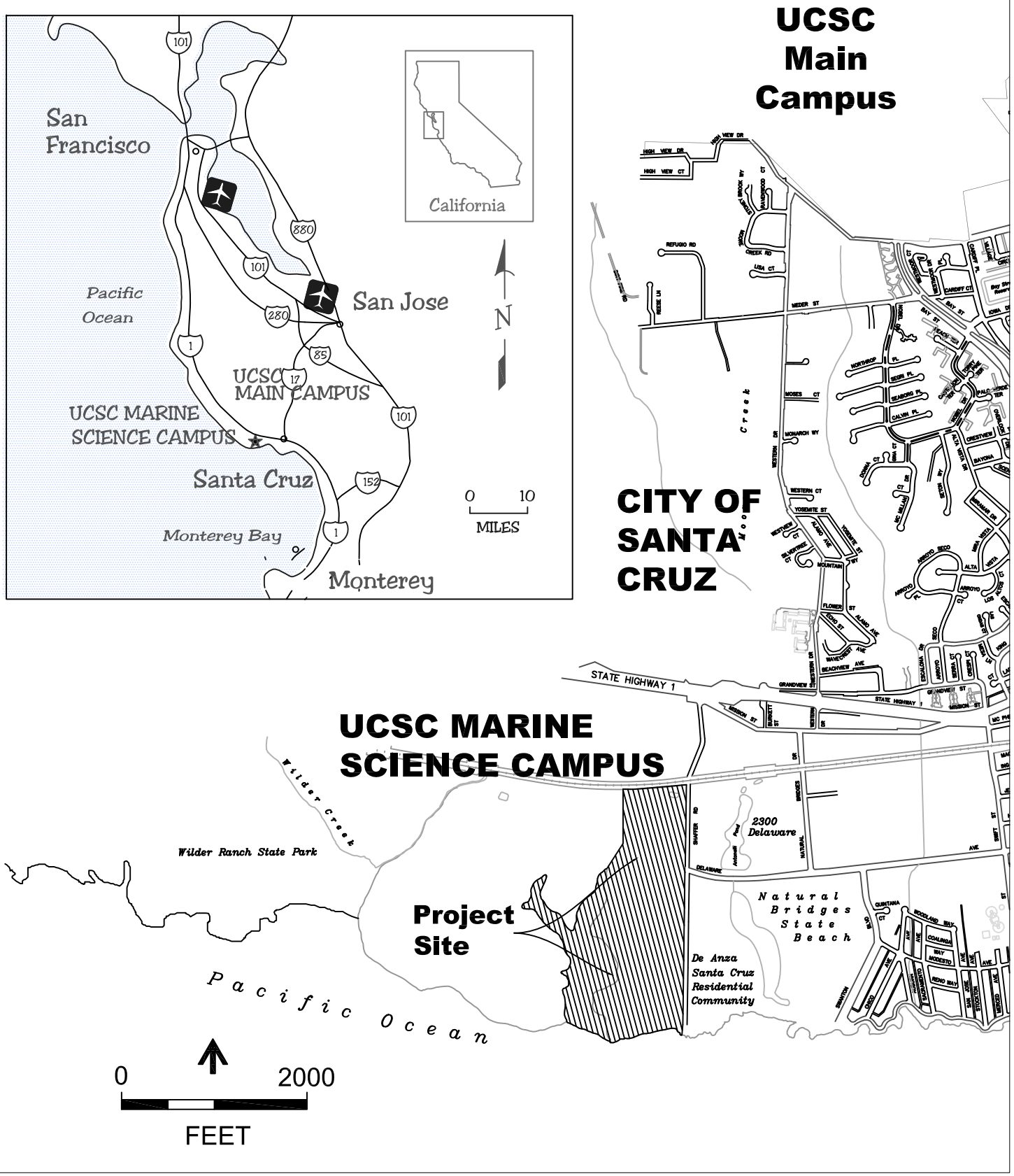
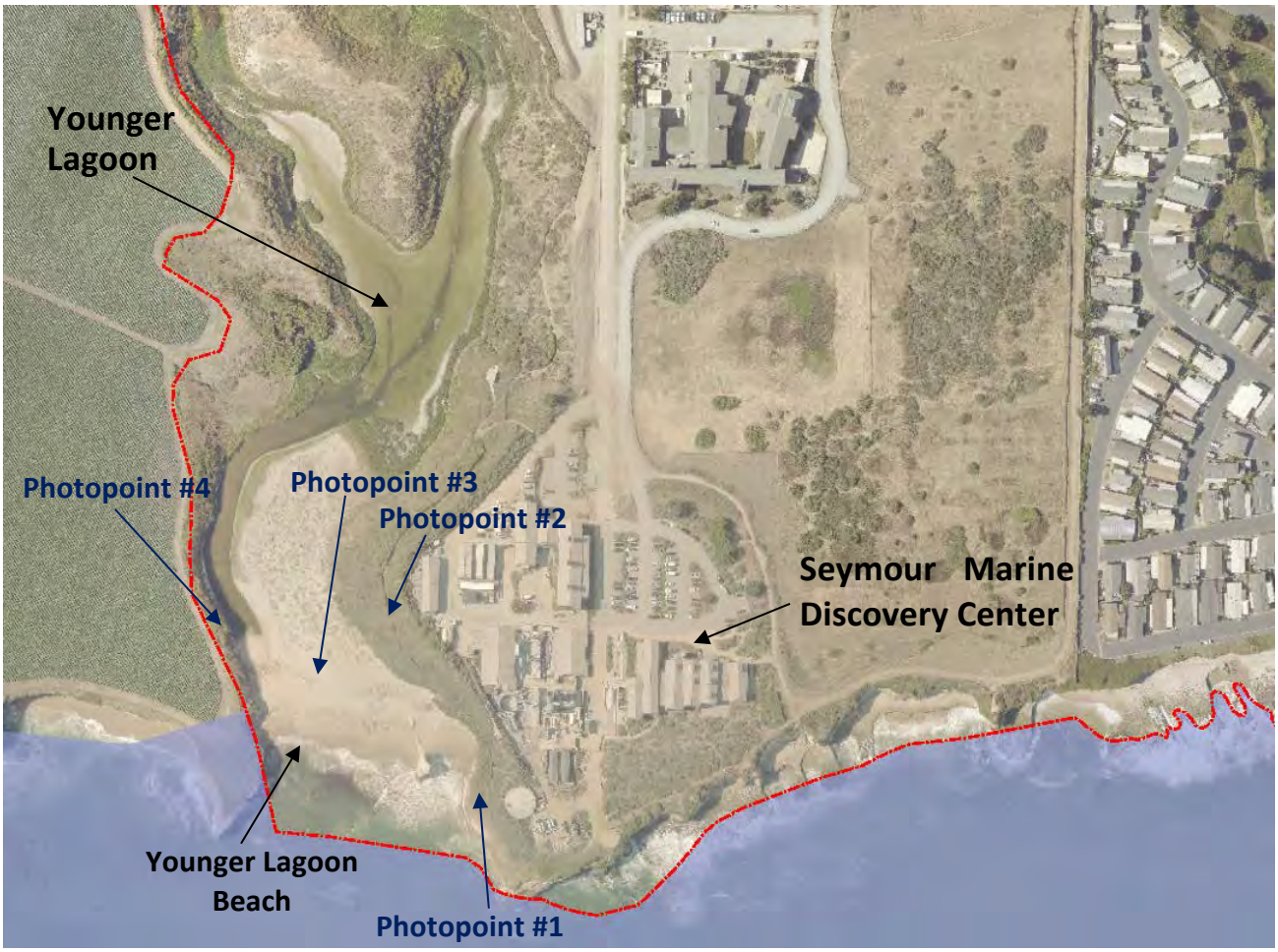


Exhibit 1
SCZ-NOID-0004-20
1 of 2

Aerial View of Younger Lagoon Beach and the Marine Science Campus



Note: All photopoint locations are approximate.

Aerial View of Younger Lagoon and Coastal Science Campus

Mouth of Younger Lagoon Beach Looking Southwest


Mouth of Younger Lagoon
Beach Looking Southeast


Mouth of Younger Lagoon
Beach Looking North


Back-beach of Younger
Lagoon Beach Looking West


Back-beach of Younger
Lagoon Beach Looking
North

T R A N S M I T T A L

Date: **June 27, 2025**

To: **Kiana Ford, Coastal Program Analyst** *(NOID and Supporting Information)*
California Coastal Commission
725 Front Street, Suite 300
Santa Cruz, CA 95060

Re: **Notice of Impending Development 13 (NOID 13 25-1)**
Public Access To and Within Younger Lagoon Natural Reserve
Coastal Science Campus
100 Shaffer Road
Santa Cruz, CA 95060

From: **Jolie Kerns, Director of Campus Planning**
University of California, Santa Cruz
1156 High Street, Barn G
Santa Cruz, CA 95064

1. **NOID 13 25-1 Cover Letter**
2. **NOID 13 25-1 Public Access to and Within Younger Lagoon Natural Reserve Supporting Information (Two hard copies and pdf email submission)**
3. **NOID 13 25-1 Mailing (self addressed/stamped envelopes hard copies)**

UC SANTA CRUZ
Physical Planning, Development
and Operations

June 26, 2025

Kate Huckelbridge, Executive Director
California Coastal Commission
45 Fremont Street, Suite 2000
San Francisco, CA 94105

Re: Marine Science Campus Coastal Long Range Development Plan (CLRDP)
Notice of Impending Development (NOID) 13 25-1 Public Access to and within Younger Lagoon Natural Reserve, 5-Year Beach Access Management Plan

Dear Ms. Huckelbridge:

On October 7, 2020, the California Coastal Commission approved UCSC's NOID 12 (20-1), Public Access to and within Younger Lagoon Natural Reserve, as consistent with UCSC's approved Coastal Long Range Development Plan with the addition of five staff-recommended special conditions.

Special Condition 5, Beach Access Management Plan Duration states, "This approval for UCSC's public beach access management plan at Younger Lagoon Beach shall be effective through December 31, 2025. UCSC shall submit a complete NOID, consistent with all CLRDP requirements, to implement its next public beach access management plan at Younger Lagoon Beach (for the period from January 1, 2026 to December 31, 2030) no later than July 1, 2025.

Enclosed for your review and approval is UCSC's Public Access to and within Younger Lagoon Natural Reserve, 5-year Beach Access Management Plan, submitted as NOID 13 25-1, for the period January 1, 2026 to December 31, 2030.

Sincerely,

DocuSigned by:
7B57C1F0EA074E9...

Oxo Slayer
Principal Physical Planner
for
Jolie Kerns
Director of Physical and Environmental Planning

Via email
cc: Rainey Graeven
Kiana Ford
Gage Dayton

Notice of Impending Development 13 25-1

Public Access to and within Younger Lagoon Natural Reserve

Supporting Information

see CLRDP 8.2.5

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1. Project Report

1a. NOID 13 (25-1) Project Description

PUBLIC ACCESS TO AND WITHIN YOUNGER LAGOON NATURAL RESERVE (IMPLEMENTATION MEASURE 3.6.3)

Background

Sixty years ago, the University of California (UC) Natural Reserve System began to assemble, for scientific study, a system of protected sites that would broadly represent California's rich ecological diversity. Today the UC Natural Reserve System is composed of 42 reserves that encompass approximately 47,000 acres of protected natural land available for university-level instruction, research, and public outreach. The UC Natural Reserve System supports research and education through its mission of contributing *"to the understanding and wise management of the Earth and its natural systems by supporting university-level teaching, research, and public service at protected natural areas throughout California."* By creating this system of outdoor classrooms and living laboratories, and making it available specifically for long-term study and education, the UC Natural Reserve System supports a variety of disciplines that require fieldwork in wildland ecosystems. The University of California is a Trustee Agency with regard to sites within the UC Natural Reserve System under the California Environmental Quality Act guidelines. As one of only four designated Trustee Agencies, the University has a duty to steward reserves to preserve their long-term integrity on behalf of the people of California. UC Santa Cruz (UCSC) administers five UC Natural Reserves: Younger Lagoon Reserve (YLR), Año Nuevo Island Reserve, Landels-Hill Big Creek Reserve, Strathern Ranch Reserve, and Fort Ord Natural Reserve as well as an 800-acre campus natural reserve.

History of Public Access to Younger Lagoon Beach

This summary provides a coarse overview of the major events that affected beach access at Younger Lagoon over the last century. Prior to 1972, Younger Lagoon Beach was privately owned and closed to the public. The owners (Donald and Marion Younger) actively patrolled for, and removed, trespassers from their property, including the beach. In 1972, the Younger Family donated approximately 40 acres of their property to the University of California for the study and protection of the marine and coastal environment. These lands included Younger Lagoon and Beach (approximately 25 acres), and an adjoining parcel of land (approximately 15 acres) which became the

site of the original Long Marine Laboratory. At the time of their donation, Donald and Marion Younger intended that the lagoon, beach and surrounding slopes be protected in perpetuity by the University as a bird sanctuary, and the original coastal permit for the site (P-1859) deemed that the "lagoon will be managed and preserved as a natural area for waterfowl and terrestrial birds and animals".

In the years between the donation of the property and the start of Long Marine Laboratory construction (1976), the University leased the future Long Marine Laboratory site back to farmers who had been farming the property for the Younger family prior to the donation. During those years, the same no-trespassing rules for the beach were enforced as when the property was owned by the Younger family.

Once construction of Long Marine Laboratory began in 1976, the land was no longer under the watch of the farmers, and public pressure on the beach began to increase. Many Santa Cruz locals remember the next several years at Younger Lagoon Beach fondly as it became a popular nude beach. The increased public access had a noticeable impact on the flora and fauna of the beach and was not in accordance with the intention of the original donation by the Younger family. By 1978 discussions had begun between the University and the California Coastal Commission regarding the impact of uncontrolled public access to the beach. In 1981, it was decided that the impacts to Younger Lagoon Beach were significant and the California Coastal Commission, under coastal permit P-1859, closed uncontrolled public access to the beach specifically to protect sensitive resources.

After the approval of the 1981 coastal permit P-1859, the University began to actively patrol the beach for trespass and to educate the public about the closure. After Younger Lagoon Reserve was incorporated into the UC Natural Reserve System in 1986, users were required to fill out applications or contact Natural Reserve staff for specific research, education, or outreach efforts. As the Long Marine Laboratory campus grew, a protective berm and fencing were constructed around the perimeter of the lagoon, and informational 'beach closed' signs were posted on the cliffs above the beach. Over time, trespass decreased and the reduced public access had a noticeable positive impact on flora fauna as well as beach/dune habitat.

Public access to Younger Lagoon Beach was discussed again during the CLRDP negotiation process (2000-2008). At the time negotiations began, Younger Lagoon Reserve supported a rich composition of plant and animal species despite being surrounded by agricultural and urban development. Reserve

staff were concerned that any increase in public access could threaten the already heavily impacted habitat and impact ongoing and future research efforts. Although infrequent, unauthorized uses of the reserve including trespass and vandalism of the Younger Lagoon Beach do occur and put research equipment and sensitive resources at risk. Reserve staff work hard to protect sensitive resources and maintain the Younger Lagoon Beach as an important outdoor classroom and living laboratory. After CLRDP certification (2009), Beach Access Management Plans were implemented as outlined in UC Santa Cruz's NOID 2 (10-1), NOID 9 (18-2) and NOID 12 (20-1). Under the current Beach Access Management Plan, the Younger Lagoon Beach remains closed to unsupervised public access and the reserve has implemented a management, monitoring and outreach plan that includes public access through free docent-guided beach tours as well as user groups who apply through the reserve application process (e.g. local schools, bird watching clubs, etc.).

CLRDP Implementation Measure (IM) 3.6.3 Overview

CLRDP Implementation Measure (IM) 3.6.3 requires that the public have access to Younger Lagoon Reserve beach through controlled visits, and that a monitoring program be created to document the condition of native flora and fauna within Younger Lagoon and its beach over a five-year period. IM 3.6.3 also requires that the campus prepare a report at the end of the five-year period which presents the results of the monitoring and a discussion of the potential effect of controlled beach access on flora and fauna at Younger Lagoon. At the end of each five-year period, the University must submit a Notice of Impending Development (NOID) to the Coastal Commission to implement a beach access plan for the next five years (e.g. 2010, 2015, 2020, 2025, 2030).

Public Tours

Since 2010, the University has offered docent guided public tours of the Younger Lagoon Beach. The extent of the beach access area accessed by the tours has varied depending on tidal conditions and the location of plants, as foot traffic is only permitted seaward of the dune vegetation. Thus, the exact access area may vary slightly from the areas depicted in Figure 3.11 of the CLRDP. The trail provides an interpretive experience for visitors that includes a view of the lagoon, a walk through a restored coastal scrub habitat with opportunities to view the rear dune and walk on the beach.

Since 2010, tours have been led by Seymour Marine Discovery Center (Seymour Center) docents trained in the natural and cultural history and ecology of YLR. The Seymour Center is a community-supported marine science education center operated by UC Santa Cruz, located on the Coastal Science Campus. The Seymour Center is dedicated to educating people about the role scientific

research plays in the understanding and conservation of the world's oceans. Free beach tour curriculum focuses on the unique ecology of the Younger Lagoon Reserve beach. Seymour Center docents share the UC Santa Cruz land acknowledgment at the beginning of every tour, followed by a narrative history of Younger Lagoon Reserve and the UC Natural Reserve System. Throughout the tour, Seymour Center docents provide detailed information about YLR's flora, fauna, geology, and current research projects with beach tour participants.

The free docent-led beach tours are part of broader public education and outreach programming on the Coastal Science Campus, including ADA accessible paths and overlooks, bilingual interpretative signage, community events such as the Climate Action Market and hands-on learning opportunities for K-12 students including the Ocean Explorers summer camp. The Seymour Center operates and Exhibit Hall open 6 days a week year-round and 7 days a week in the summer, focused on educating the public about the importance of science impact on developing solutions for the Santa Cruz community. In addition to the docent-guided beach tours, visual access to the lagoon and back dune is provided to the public via a public overlook along McAllister Way (Figure 1). This overlook (Overlook E) is open to the public and includes interpretative signage that provides information on the free beach tours. Visual access to the Younger Lagoon beach and information about Younger Lagoon Reserve is also provided to all visitors taking the Seymour Center's docent-guided Reserved and Daily Tours via the Overlook C (Figure 1). Nearly 17,000 visitors take these tours each year.

Figure 1. Younger Lagoon Overlooks. Left panel shows the view from the Overlook E located along McAllister Way. Overlook E is open to the public and includes interpretative signage that provides information on how to sign-up for the beach tour. Right panel shows the view from the Overlook C.

Since 2010, tours have been advertised via a variety of outlets, including press releases, calendar listings, print ads, public radio ads, social media, and the Seymour Center and Younger Lagoon Reserve websites. From 2010-2018, YLR Beach tours were filled via phone reservation. Starting in 2019, free docent-led beach tour sign-ups were made available by phone and at the Seymour Center public admissions counter. Starting in 2020, sign-ups were also available online. Since 2010, the Seymour Center has kept track of all required user data. From 2010-2017, tours were limited to 12 persons. From 2018-2020, tours were limited to 14 persons with the goal to turn no one away. Since 2020, tours have been limited to 18 persons with the goal to turn no one away. The free docent-led beach tours are best suited for adults in good physical condition and children over 10 years of age.

Members of the public entering Younger Lagoon Reserve are required to adhere to the UC Natural Reserve System Reserve Use guidelines. Because beach tours are limited to groups with trained docents. No additional signage or fences on the beach have been required. The beach access trail consists of a simple dirt/mulch path that was in place prior to the approval of NOID 2 (10-1). The trail is maintained by clipping overgrown vegetation and maintaining the earthen path as needed.

Beach Monitoring Program

Since 2010, the University has monitored the flora, fauna, and human use of Younger Lagoon Beach on a quarterly basis. Although Implementation Measure 3.6.3 (IM 3.6.3) of the CLRDP only requires monitoring of the Younger Lagoon Beach, YLR staff and faculty decided to monitor nearby beaches with varying levels of use (Natural Bridges and Sand Plant Beach) during the five-year period starting in 2010 to examine differences in the flora, fauna and human use among the three sites. This effort required hundreds of hours of staff and student time, as well as coordination with State Parks staff. Additional survey results were included in annual reports submitted to the Coastal Commission over the past fifteen years. The Younger Lagoon Natural Reserve 2024 Beach Monitoring Report included in this NOID describes the monitoring program in detail and presents the results of the entire beach monitoring program (see Section 5).

Data collected during the first five years of resource monitoring indicated that Younger Lagoon supports a wide variety of native flora and fauna, provides habitat for sensitive and threatened species, supports a unique beach dune community, and is frequently used for University teaching and research, and public groups. In general, native plant species richness was greatest at YLR and Natural Bridges compared to Sand Plant Beach; however, there was quite a bit of annual variation among the sites. A parameter that we quantified in 2012, and is evident from visual observation and photo

documentation, is the presence of dune hummocks and downed woody material at YLR, both of which are almost entirely absent at local beaches due to human use. These features provide habitat for plant species such as the succulent plant *dudleya*, which grow on downed woody material and dune hummocks, as well as burrowing owl that use burrows in hummocks and seek shelter beneath downed woody material. The relatively natural state of YLR beach and dune vegetation is unique among most pocket beaches in Santa Cruz County and likely represents a glimpse into what many of the pocket beaches in the greater Monterey Bay area looked like prior to significant human disturbance.

Species lists for birds, mammals, plants, reptiles, amphibians, and fish are included as Appendices I-IV. These lists provide an overview of the flora and fauna that have been recorded at Younger Lagoon over the years. Although there have been other biological surveys of the area, to the best of our knowledge the monitoring project outlined in NOID 10-1 and undertaken over the last fifteen years provided the most extensive survey effort for flora and fauna on the Reserve, resulting in numerous additions to the Reserve's species lists. Younger Lagoon provides important habitat for many animals and supports a rich composition of plant species. The lack of disturbance and low human activity are likely the primary factors that maintain the high diversity in the Lagoon. Track survey and camera trap work have documented bobcat, coyote, deer, and other mammals on the beach; many of these species are likely residents within the Reserve. Track survey results also indicate that several of these mammals are residing (at least occasionally) in the Reserve and use the area as hunting grounds. For example, bobcat sign indicates that this species successfully hunts for roosting pelagic birds within the Reserve boundaries. These observations suggest that although Younger Lagoon is a relatively small area, amidst agriculture and development, this relic habitat is still functioning at a level beyond most developed beaches and lagoons in the region.

The results of the monitoring program indicate that open access to the beach would result in the loss of the unique ecological characteristics of the site, reduce its effectiveness as a research area for scientific study, and likely have a negative impact on sensitive and protected species.

Beach Tour Avian Impact Monitoring

Younger Lagoon Beach, Lagoon, and cliff edges are hotspots of avian diversity. YLR supports over 100 different species of birds, including nesting seabirds. Although not required by the CLRDP or any NOID special condition, the University has also collected data on the real-time biological impacts of the tours since 2019. Beginning on April 14, 2019, Younger Lagoon Reserve staff

accompanied tours, and documented impacts to avian wildlife on the beach. Although tour participants follow the designated tour route and adhere to guidance provided by the Seymour Center docents regarding sensitivity of wildlife to human disturbance, YLR staff observed birds flushing from the wet sandy beach, beach dunes, coastal stack, and lagoon in response to over 70% of the tours they attended. The average number of avian species present post-tour was significantly less than the average number of avian species pre-tour (p<=.0001, paired t-test; Figure 2). Flushing can have negative impacts birds as they are forced to abandon resting, foraging, or nesting sites. The NOID 12 (20-1) Special Conditions Implementation Report 9 describes the beach tour avian impact monitoring program in detail (see Section 5).

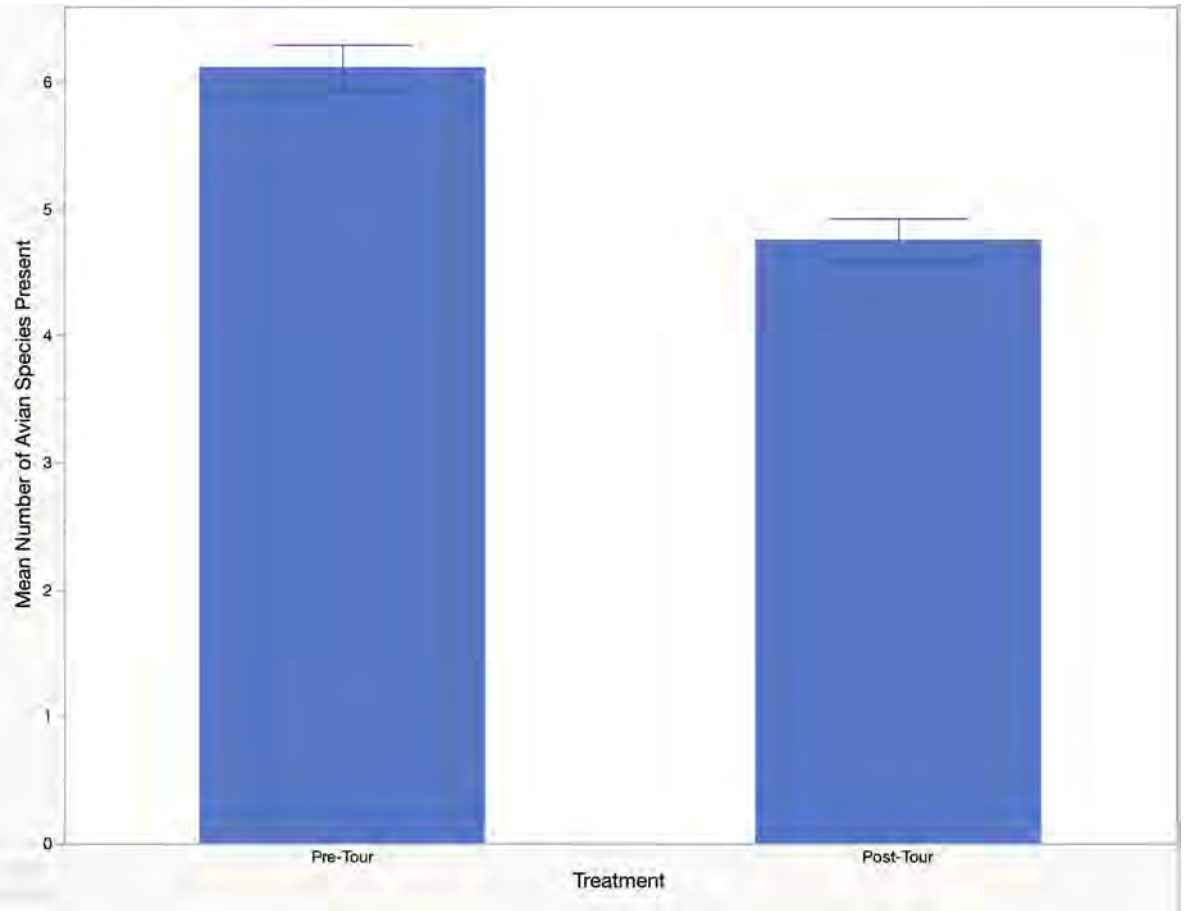

Figure 2. Effect of tours on avian species from April 2019 through June 2025 (N=149). Error bars indicate standard error. The average number of avian species present pre-tour was 6.12 +/- 2.16 (+/- sd) (SE=0.18). The average number of avian species present post-tour was 4.75 +/- 2.06 (+/- sd) (SE=0.17). The average number of avian species present post-tour was significantly less than the average number of avian species pre-tour (p=<0.0001, paired t-test).

The documented negative biological impacts to birds described above further illustrate the potential of open and unsupervised access to the beach to negatively impact sensitive biological resources and the research value of the reserve. Any increase in the number of tours offered or number of participants per tour is likely to increase impacts.

Summary of Previous Beach Access Plan NOIDs

The section below summarizes the key requirements and outcomes of the three previous Beach Access NOIDs authorized by the Commission. A summary of the free beach tour user data from 2018-present is below:

Year	Participants	Walk in	Reservation	No Show
2018 (pre special conditions)	224	5	234	15
2019 (first year post special conditions)	255	46	253	43
2020 (30 tours canceled due to the pandemic)	60	5	83	28
2021 (all tours canceled due to the pandemic)	0	0	0	0
2022 (8 tours canceled due to the pandemic)	358	22	442	94
2023	375	59	560	235
2024	350	33	504	187
Jan-June 2025	207	15	274	82

<u>Beach Access NOID 2 (10-1) for 2010-2015</u>

In March 2010, the California Coastal Commission approved UC Santa Cruz's first NOID for Implementation Measure 3.6.3 [NOID 2 (10-1)] as consistent with UCSC's approved Coastal Long Range Development Plan.

Key NOID 2 requirements for access, outreach and monitoring include:

- 24 docent lead tours per year (2x/month)

- 12-person limit per tour
- Tours offered free with paid admission to the Seymour Center
- No additional signage or outreach required
- Quarterly beach monitoring program initiated

Beach Access NOID 9 (18-1) for 2015-2020

On September 13, 2018, the California Coastal Commission approved UC Santa Cruz's NOID 9 (18-1) as consistent with UCSC's approved Coastal Long Range Development Plan with the addition of five staff-recommended special conditions. These included 1) Free Beach Tours, 2) Beach Tour Outreach Plan, 3) Beach Tour Signs, 4) Beach Tour Availability and Monitoring, and 5) Beach Access Management Plan Duration. Because NOID 9 (18-1) was not approved until 2018, special condition 5 required the University to submit the next beach management NOID by June 30, 2020 to get back on the 5-year review schedule.

Prior to the submittal of NOID 9 (18-1), in an effort to meet Commissioner requests to increase the number of tours, Seymour Center staff analyzed historic tour data and identified those months during which tour demand had been met or exceeded (October-February), and those months during which there was higher demand (March-September). Based on these data, beginning in January 2018, we implemented a pilot program and began offering tours twice a month during the slower fall and winter months (October-February), and four times a month during the busier spring and summer months (March-September). The total number of tours offered in 2018 was increased from 24 to 38 (offering approximately 60% more tours). NOID 18-1 formalized the increase in tour numbers piloted in 2018 as part of five special conditions.

From 2019-2020, free docent-led beach tours were offered two to four times a month for a total of 38 tours per year through the Seymour Center per NOID 9 (18-1). Due to the COVID-19 pandemic, the Seymour Center was temporarily closed and all of its in-person programs (including the free beach tours) were temporarily suspended in March 2020. During this time, the University created a free bilingual (English and Spanish) virtual beach tour to continue to provide access to the Younger Lagoon beach.

Virtual Tour Links:

English: https://arcg.is/11m1Ga

Spanish: https://arcg.is/0q0Czv

Key NOID 9 conditions for access, outreach and flora/fauna monitoring include:

- 38 docent lead tours per year (2x/month fall/winter + 4x/month spring/summer)
- 14-person limit per tour
- Outreach plan and 6-month outreach reports required
- Quarterly beach monitoring program continued

Beach Access NOID 12 (20-1) for 2020-2025

On October 7, 2020, the California Coastal Commission approved UC Santa Cruz's NOID 12 (20-1) as consistent with UCSC's approved Coastal Long Range Development Plan with the addition of new requirements supplementing the existing (NOID 9 18-1) five staff-recommended special conditions. The five special conditions are: 1) Free Beach Tours, 2) Beach Tour Outreach Plan, 3) Beach Tour Signs, 4) Beach Tour Availability and Monitoring, and 5) Beach Access Management Plan Duration.

The free beach tour program restarted in April 2022. Upon resumption of the free beach tour program, free docent-led beach tours were again offered two to four times a month for a total of 38 tours per year through the Seymour Center per NOID 12 (20-1). Since the program restarted, demand has fluctuated, but the number of annual beach tour participants has far exceeded pre-pandemic levels. During the first 12 months after the Seymour Center reopened after the pandemic, 180 participants were waitlisted. During the most recent reporting period, 59 participants were waitlisted. All participants who are unable to book a tour on their preferred date are offered slots on their preferred date as cancellations arise - as well as the opportunity to book an alternate date. Whenever possible, participants who are waitlisted are accommodated on an alternate date. Although tour demand has continued to be higher than pre-COVID attendance levels, UC Santa Cruz anticipates the number and volume of beach tour waitlists may continue to diminish as the Seymour Center continues to offer and promote other facility tours, both indoor and outdoor. (See NOID 12 (20-1) Special Conditions Implementation Reports 1-9).

Key NOID 12 conditions for access, outreach and flora/fauna monitoring include:

- 38 docent lead tours per year (2x/month fall/winter + 4x/month spring/summer)
- 18-person limit per tour

- Outreach plan and 6-month outreach reports required
- Quarterly beach monitoring program continued

Implementation Summary of Current Beach Access Plan NOID 12 Special Conditions for 2020-2025

Special Condition #1: Free Beach Tours

Over the last 5 years, all beach tours were offered for free (without admission fee). Beach tour sign-ups were available online through the Seymour Marine Discovery Center (Seymour Center) website, by phone and at the Seymour Center public admissions counter. Seymour Center staff tracked any tour requests that are denied due to lack of tour availability or because tours are fully booked as part of their ongoing monitoring of all visitor programs. Seymour Center staff recorded the number of participants that were denied, the number of participants that were wait listed, as well as the date of the request, the date of the tour being requested, and how participants heard about the tour (see Condition 2). Although not required to, Seymour Center staff also recorded home zip code information of tour participants. All UC Santa Cruz public materials referencing the beach at Younger Lagoon and/or beach tours, including the websites below, clearly identify that access to the beach is available for free.

https://youngerlagoonreserve.ucsc.edu/visit/public-tours.html
https://seymourcenter.ucsc.edu/visit/younger-lagoon-tours/

Special Condition #2: Beach Tour Outreach Plan

Over the last 5 years, the University implemented extensive outreach efforts for the free beach tours in accordance with NOID 12 (20-1). These efforts included website listings; social media postings; calendar listings, paid radio and print advertisements - including publications that serve inland communities; and e-newsletters. Tour participants were surveyed to determine how they heard about the tour, as required by the special conditions. In addition, although not required to do so by NOID 12 (20-1), Seymour Center staff also began recording the home zip code information of tour participants in April 2023 to better understand trends in tour participation.

Since April 2023, over 95% of free beach tour participants were from California. Approximately 60% of participants were from Santa Cruz County and approximately 17% of participants were from other counties along the California coast, while approximately16% were from inland California communities (Figure 3).

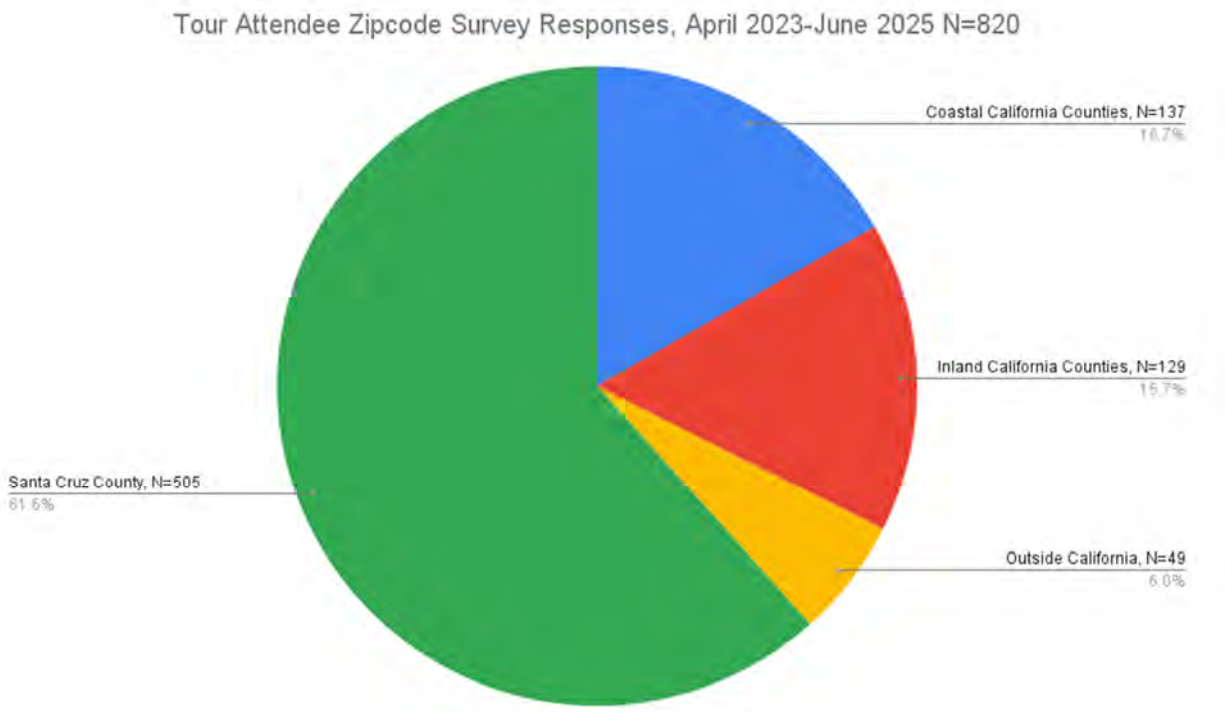

Figure 3. Participant zip code survey results for the free beach tours from April 2023 – June 2025 (N=820). Over 95% of free beach tour participants were from California. Approximately 60% of participants were from Santa Cruz County. Approximately 17% of participants were from other coastal California communities. Approximately 16% were from inland California communities.

Since the Seymour Center began tracking this information in 2022, the most frequent way all tour participants - whether from inland California communities, coastal California communities or outside of California, learned about the free beach tour was through the Seymour Center's website (Figure 4, Figure 5, Figure 6, Figure 7, and Figure 8). Some other required outreach efforts, such as paid radio and newspaper advertisements have shown promise; while others, such as many of the required calendar listings show little to no nexus to tour sign-ups.

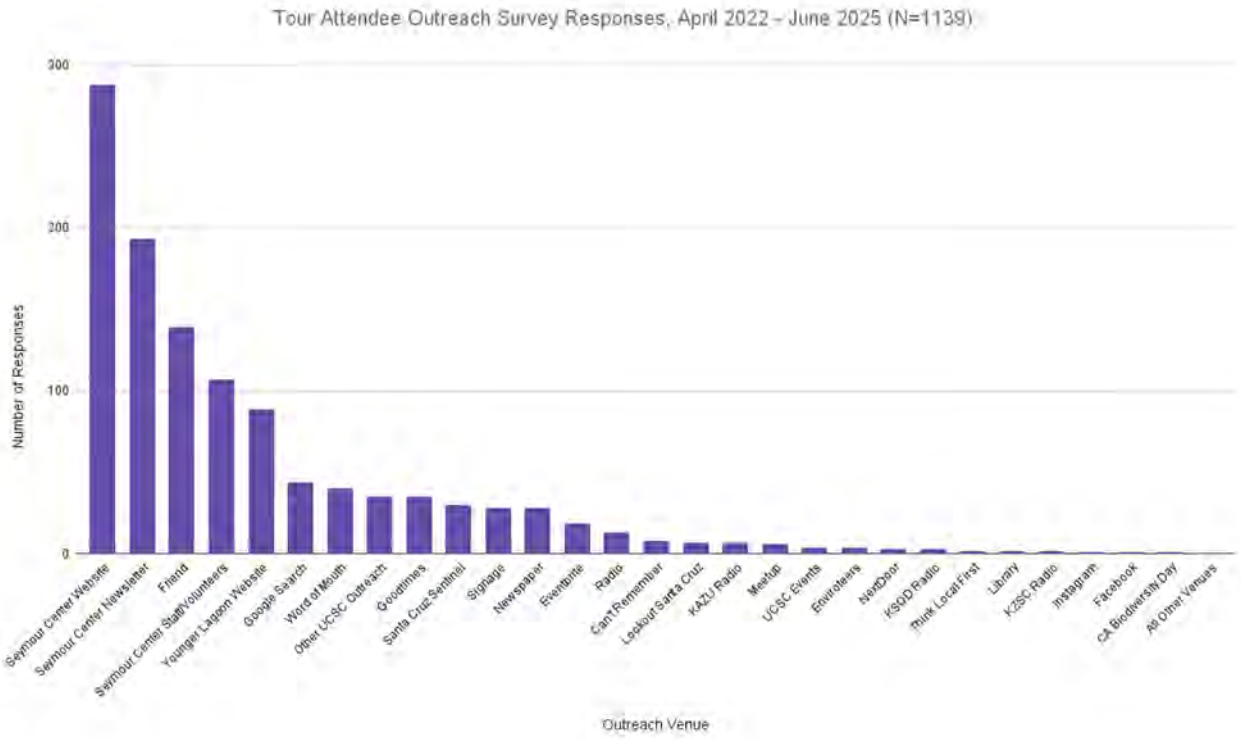

Figure 4. Outreach survey results for the free beach tours for April 2022-July 2025 (N=1139). The most frequent way tour participants from all areas learned about the free beach tour was through the Seymour Center's website.

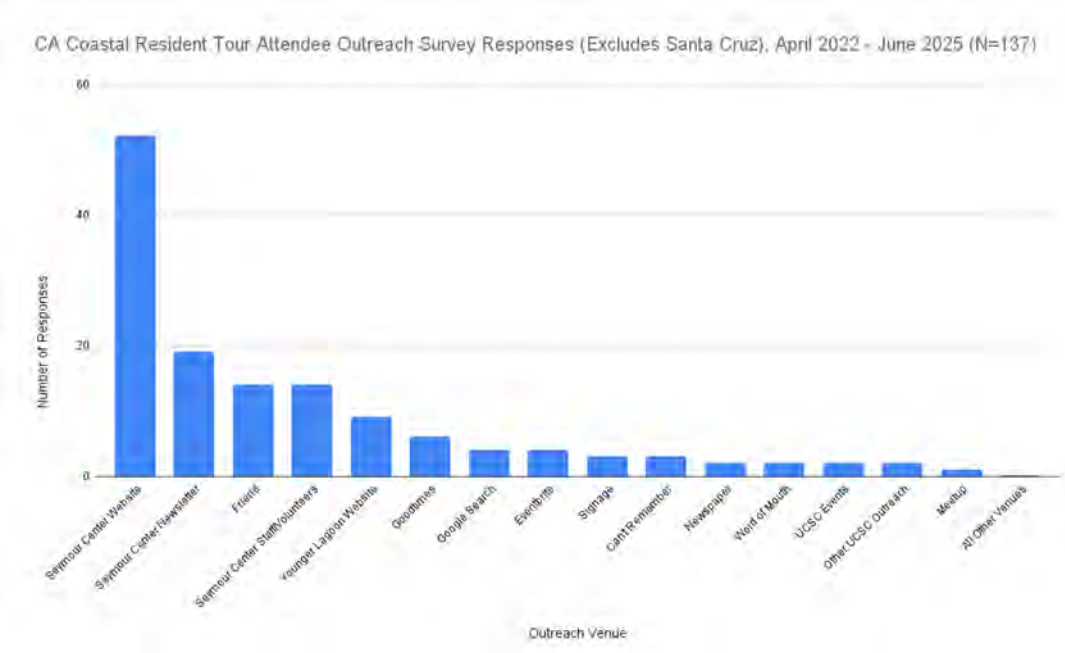

Figure 5. Outreach survey results from coastal California residents (excluding Santa Cruz County residents) for the free beach tours from April 2022-January 2025 (N=137). The most frequent way tour participants from coastal California communities (excluding Santa Cruz County) learned about the free beach tour was through the Seymour Center's website.

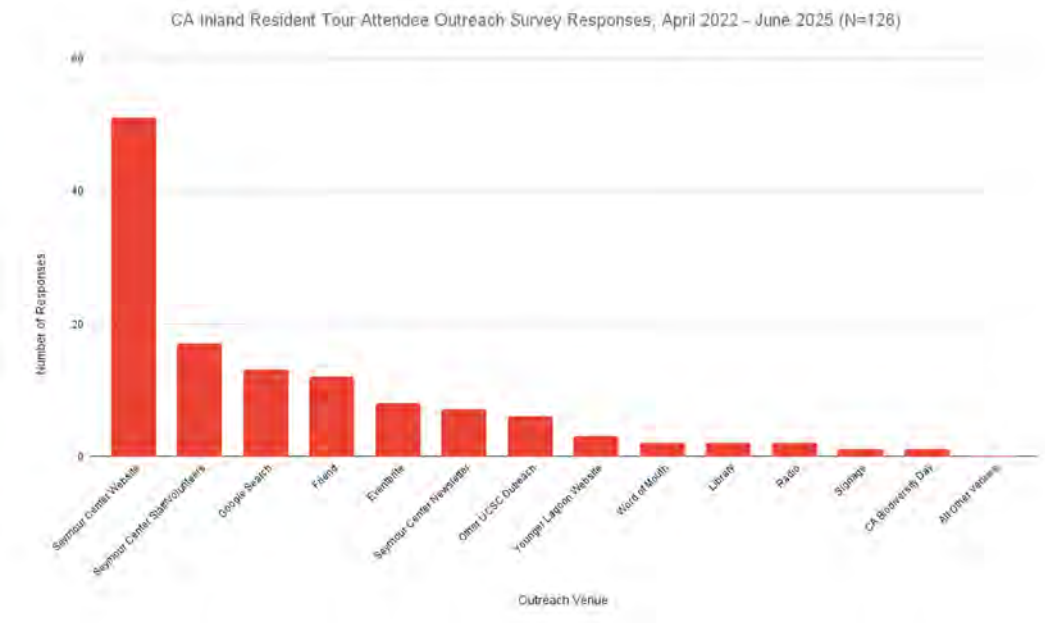

Figure 6. Outreach survey results from inland California residents for the free beach tours from April 2022-January 2025 (N=126). The most frequent way tour participants from inland California communities learned about the free beach tour was through the Seymour Center's website.

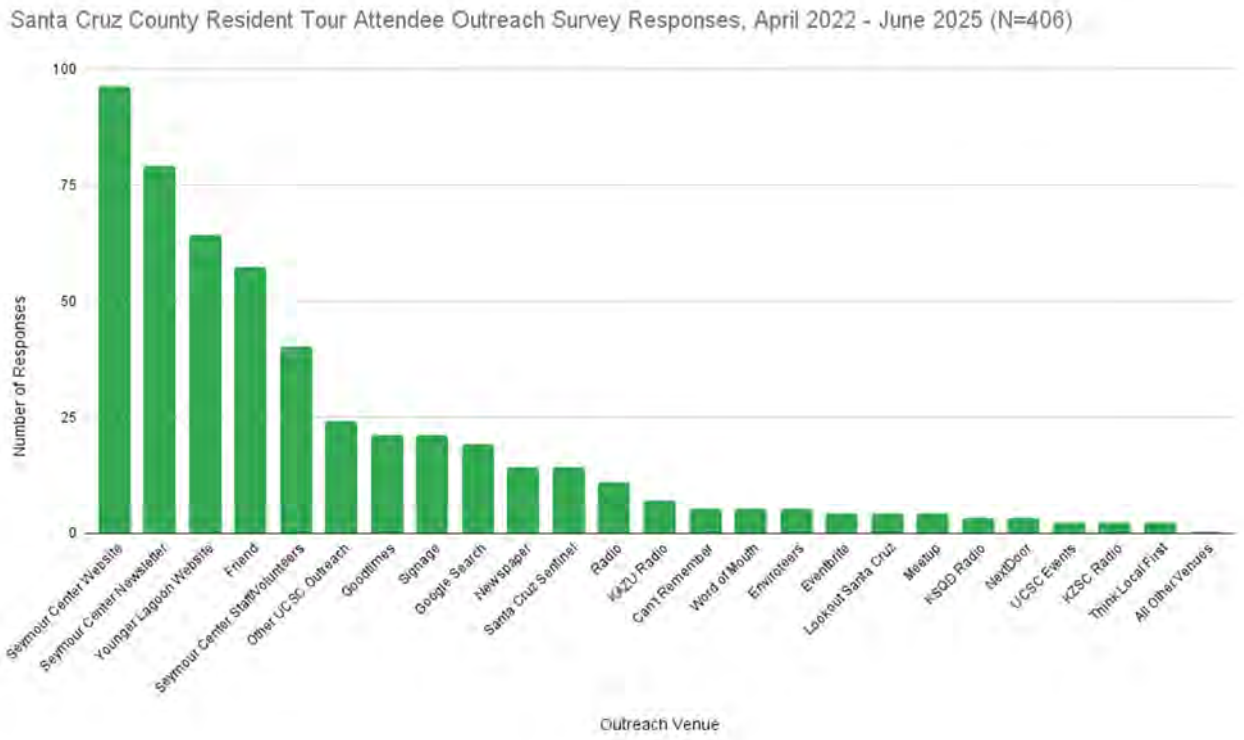

Figure 7. Outreach survey results from Santa Cruz County residents for the free beach tours from April 2022-January 2025 (N=406). The most frequent way tour participants from Santa Cruz County learned about the free beach tour was through the Seymour Center's website.

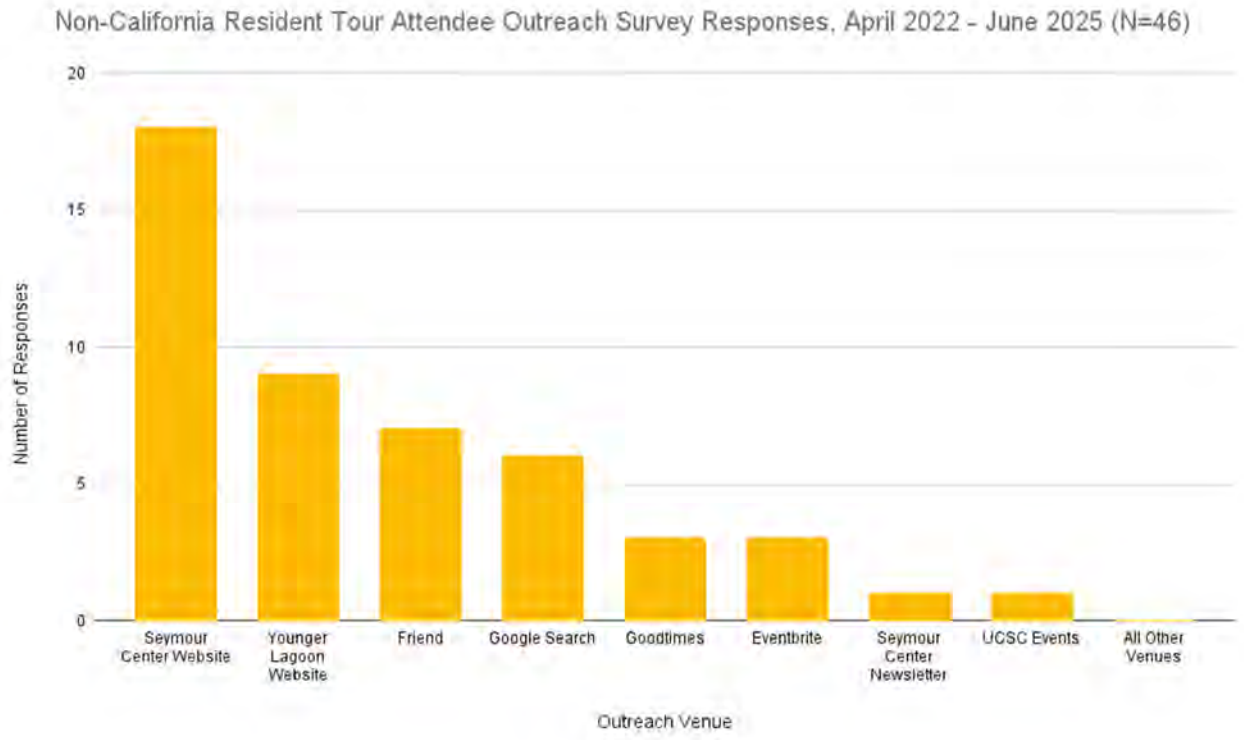

Figure 8. Outreach survey results from non-California residents for the free beach tours from April 2022-June 2025 (N=46). The most frequent way tour participants from outside California learned about the free beach tour was through the Seymour Center's website.

Special Condition #3: Beach Tour Signs

Over the last 5 years, as required by NOID 12 (20-1), information on the free beach tours was displayed "day of" on large sign in the front window of the Seymour Center and at the public admissions counter. Admissions counter signage included the brown and white footprints on wave logo and the following language "Free Younger Lagoon Reserve Beach Tours Today". Signage was also displayed at the information kiosk outside of the Seymour Center and at six public access overlooks (A-F) on the Coastal Science Campus. Overlooks, admissions counter, and kiosk signage includes the brown and white footprints on wave logo and include the following language: "Free Younger Lagoon Reserve Beach Tours, Call (831) 459-3800". Tour participants from Santa Cruz County frequently cited signage as one of the ways they learned about the tours (Figure 7).

Special Condition #4: Beach Tour Availability and Monitoring

Over the last five years, when not suspended due to the COVID pandemic, free beach tours were offered 38 total beach tours per year). In general, beach tour participants were limited to 18 persons per tour; however, that number was exceeded a few times on a case-by-case basis. Beach tours did

not require any minimum number of participants to be provided. As required by NOID 12 (20-1), UC Santa Cruz documented the date/time and number of participants for each beach tour, as well as the number of tour requests that are denied due to lack of tour availability or because tours are fully booked (see also Condition 1). In addition, tour participants were surveyed to determine how they heard about the tour. This information is being tracked with sign-up information (see Conditions 1 and 2).

For the last 7 years, UC Santa Cruz has submitted beach tour monitoring reports every six months. The University has submitted all of these reports in full and on time, often with less than 10 calendar days between the final free public beach tour of the reporting period and the reporting deadline.

Special Condition #5: Beach Access Management Plan Duration
IM 3.6.3 requires that at five-year intervals post-certification, the University shall submit a Notice of Impending Development (NOID) to the Coastal Commission that both reports on the effectiveness of the previous five years of beach access management and includes all necessary supporting information to implement a beach access management plan for the next five years.

UC Santa Cruz has submitted this NOID, consistent with all CLRDP requirements, to implement its next public beach access management plan at Younger Lagoon Beach (for the period from January 1, 2026 to December 31, 2030) on June 30, 2025.

Proposed 5-Year Beach Access Plan NOID 13 (25-1) 2026-2030
This NOID [13 (25-1)] describes the University's beach access plan for the next five years (2026-2030). The University is proposing to continue the existing free docent-led beach tour program for an additional five years with minor revisions to two of the special conditions required by NOID 12 (20-1), currently in place, based on an effectiveness review of the special conditions.

As detailed below, the University is proposing to modify special condition 2) Beach Tour Outreach Plan and special condition 4) Beach Tour Availability and Monitoring. All other special conditions are proposed to continue unchanged.

Existing Special Condition #1: Free Beach Tours (continue unchanged)
The University proposes that all beach tours continue to be offered for free (without admission fee). Beach tour sign-ups will continue to be available by phone, online, and at the Seymour Center public

admissions counter. Seymour Center staff will continue to track any tour requests that are denied due to lack of tour availability or because tours are fully booked as part of their ongoing monitoring of all visitor programs. Seymour Center staff will continue to record the number of participants that were denied, the number of participants that were wait listed, as well as the date of the request and the date of the tour being requested. The Younger Lagoon Reserve and the Seymour Marine Discovery Center websites will continue to clearly identify that access to the beach is available for free via beach tours.

https://youngerlagoonreserve.ucsc.edu/visit/public-tours.html
https://seymourcenter.ucsc.edu/visit/younger-lagoon-tours/

The University proposes that the tours continue to be led by Seymour Center docents and focus on the unique ecology of the Younger Lagoon Reserve beach. Seymour Center docents will share the UC Santa Cruz land acknowledgment at the beginning of every tour, followed by a narrative history of Younger Lagoon Reserve and the UC Natural Reserve System. Throughout the tour, Seymour Center docents provide detailed information about YLR's flora, fauna, geology, and current research projects with beach tour participants. Tours will include a walk through restored coastal scrub habitat with opportunities to view the lagoon, rear dune, and end on the beach.

Because beach tours are limited to groups with trained docents; thus, no additional signage or fences will be required. Maintenance of the trail by clipping overgrown vegetation and maintaining the earthen path will be continued. No changes to the tour access area are proposed (Figure 9).

Figure 9. Overview of beach tour route. Visitors on docent led tours will have beach access within the "Beach Access Area." The extent of the beach access area will vary from year-to-year dependent upon the location of plants (i.e. foot traffic will be seaward of the dune vegetation). The above depiction represents the approximate location of plants in the spring of 2009.

Existing Special Condition #2: Beach Tour Outreach Plan (proposed minor revision)

The University proposes that future outreach efforts focus on venues that have proven effective and discontinue efforts that have produced little to no results. In addition, the University proposes to conduct targeted outreach to Santa Cruz County Beach Flats neighborhood residents and UC Santa Cruz undergraduate students, both of which include historically underserved and disadvantaged populations geographically close to the Seymour Center. The University believes that outreach to these communities is likely to have greater return than some of the previously required outreach venues.

According to census data, the Beach Flats population is 40% Hispanic (1.5 times Santa Cruz City and 10% higher than Santa Cruz County). The median household income is $56,208, which is about half of the Santa Cruz City and Santa Cruz County averages ($141,427 and $109,266, respectively). UC Santa Cruz is a double minority serving institution because it's both a Hispanic-Serving Institution (HSI) and an Asian American and Native American Pacific Islander-Serving Institution (AANAPISI). This designation recognizes the University's commitment to serving the needs of Latiné and AANAPIS students, including those who are low-income and first-generation.

The University proposes that for the period covered by NOID 13, outreach be conducted according to the following plan:

Venue	**Language**	**Schedule**	**Mechanism for monitoring and reporting**
Seymour Center Website	Younger Lagoon Reserve tours are free and open to the public. Space is limited to 18 participants. Call **831-459-3800** or sign-up online. Virtual tours are available online. **seymourcenter.ucsc.edu**.	Permanent webpage: https://seymourcenter.ucsc.edu/visit/younger-lagoon-tours/	Provide link to updated website and date that updates were made
YLR Website	Younger Lagoon Reserve tours are free and open to the public. Space is limited to 18 participants. Call **831-459-3800** or sign-up online. Virtual tours are available online. **seymourcenter.ucsc.edu**.	Permanent webpages: https://youngerlagoonreserve.ucsc.edu/visit/public-tours.html	Provide link to updated website and date that updates were made
Seymour Center Social Media o Facebook o Instagram	Younger Lagoon Reserve tours are free and open to the public. Space is limited to 18 participants. Call **831-459-3800** or sign-up online. Virtual tours	Quarterly	Document date that posts are made and capture a link to the post

	are available online. **seymourcenter.ucsc.edu**.		
YLR Social Media o Facebook o Instagram	Younger Lagoon Reserve tours are free and open to the public. Space is limited to 18 participants. Call **831-459-3800** or sign-up online. Virtual tours are available online. **seymourcenter.ucsc.edu**.	Quarterly	Document date that posts are made and capture a link to the post
Paid Advertisements o Santa Cruz Sentinel (Santa Cruz) Newspaper o Good Times Newspaper (Santa Cruz) o KAZU public radio (Santa Cruz)	Younger Lagoon Reserve tours are free and open to the public. Space is limited to 18 participants. Call **831-459-3800** or sign-up online. Virtual tours are available online. **seymourcenter.ucsc.edu**. For Spanish language outlets: Las visitas guiadas a la reserva de la laguna Younger son gratuitas y están abiertas al público. El espacio está limitado a 18 participantes. Llame al 831-459 3800 o regístrese en línea. Las visitas virtuales están disponibles en línea. seymourcenter.ucsc.edu	Quarterly	Document date that ads ran, and verify that the ad ran by capturing a link to the website (if online)
Calendar Listing o UC Santa Cruz Events o KZSC community radio (UC Santa Cruz)	Younger Lagoon Reserve tours are free and open to the public. Space is limited to 18 participants. Call **831-459-3800** or sign-up online. Virtual tours are available online. **seymourcenter.ucsc.edu**. For Spanish language outlets: Las visitas guiadas a la reserva de la laguna Younger son gratuitas y están abiertas al público. El espacio está limitado a 18 participantes. Llame al 831-459 3800 o regístrese en línea. Las visitas virtuales están disponibles en línea. seymourcenter.ucsc.edu	Quarterly	Document date that listing ran, and verify that the listing ran by capturing a link to the website
Seymour Center Newsletter	Younger Lagoon Reserve tours are free and open to the public. Space is limited to 18 participants. Call **831-459-3800** or sign-up online. Virtual tours are available online. **seymourcenter.ucsc.edu**.	Quarterly	Document date that newsletter was sent, and verify that the newsletter was sent by capturing a link to the email

	For Spanish language outlets: Las visitas guiadas a la reserva de la laguna Younger son gratuitas y están abiertas al público. El espacio está limitado a 18 participantes. Llame al 831-459 3800 o regístrese en línea. Las visitas virtuales están disponibles en línea. seymourcenter.ucsc.edu		
Bilingual Direct Mail Campaign o Beach Flats Neighborhood residents	Younger Lagoon Reserve tours are free and open to the public. Space is limited to 18 participants. Call **831-459-3800** or sign-up online. Virtual tours are available online. **seymourcenter.ucsc.edu**. For Spanish language outlets: Las visitas guiadas a la reserva de la laguna Younger son gratuitas y están abiertas al público. El espacio está limitado a 18 participantes. Llame al 831-459 3800 o regístrese en línea. Las visitas virtuales están disponibles en línea. seymourcenter.ucsc.edu	Biannually	Document date that mail was sent, and verify the content by retaining copies of the files
UC Santa Cruz flyering	Younger Lagoon Reserve tours are free and open to the public. Space is limited to 18 participants. Call **831-459-3800** or sign-up online. Virtual tours are available online. **seymourcenter.ucsc.edu**. For Spanish language outlets: Las visitas guiadas a la reserva de la laguna Younger son gratuitas y están abiertas al público. El espacio está limitado a 18 participantes. Llame al 831-459 3800 o regístrese en línea. Las visitas virtuales están disponibles en línea. seymourcenter.ucsc.edu	Quarterly	Document date that flyering occurred verify the content by retaining copies of the flyers

Existing Special Condition #3: Beach Tour Signs (continue unchanged)

The University proposes that the beach tour signage continue unchanged. Information on the free beach tours will continue to be displayed "day of" on a large sign in the front window of the Seymour Center, public admissions counter, and front window. "Day of" signage includes the brown and white footprints on wave logo, and the following language "Free Younger Lagoon Reserve Beach Tours Today" (Figure 10). Signage has been added to the information kiosk outside of the Seymour Center and to Overlooks A-F. Overlooks and kiosk signage include the brown and white footprints on wave logo and include the following language "Free Younger Lagoon Reserve Beach Tours, Call (831) 459-3800" (Figure 11).

Figure 10. "Day of" sign design.

Figure 11. Overlooks and kiosk sign design.

Existing Special Condition #4: Beach Tour Availability and Monitoring (proposed minor revision)

The University proposes no changes to the number of tours offered per year. Free docent-led beach tours will continue to be offered at least four times per month (of which at least one per month is a weekday tour and at least two per month are weekend tours) from March 1st through September 30th, and at least two times per month (of which at least one per month is a weekday tour and at least one per month is a weekend tour) otherwise (a minimum of 38 total beach tours per year). The University also proposes no changes to the limit of 18 persons per tour. This number may be exceeded per tour on a case-by-case basis, and beach tours shall not require any minimum number of participants to be provided (i.e., if at least one person signs up, the tour shall be provided). Given the documented negative impacts of the tours on birds on the Younger Lagoon Beach, the University cautions that an increase in the number of required tours or persons per tour could further negatively impact birds at

Younger Lagoon Beach. UC Santa Cruz will continue to document the date/time and number of participants for each beach tour, as well as no-shows and the number of tour requests that are denied due to lack of tour availability or because tours are fully booked.

For the last 7 years, UC Santa Cruz has submitted beach tour monitoring reports every six months. The University has submitted all these reports in full and on time, often with less than ten calendar days between the final free public beach tour of the reporting period and the reporting deadline. To provide a reasonable amount of time to prepare these reports and better align with its other annual reporting requirements, the University proposes moving to an annual reporting schedule. UC Santa Cruz proposes to submit two copies of a Beach Tour Monitoring Report that covers the period from January 1 through December 31 of each year for Executive Director review and approval within 90 days (e.g., no later than April 1 of the following year).

Existing Special Condition #5: Beach Access Management Plan (continue unchanged)
IM 3.6.3 requires that at five-year intervals post-certification, the University shall submit a Notice of Impending Development (NOID) to the Coastal Commission that both reports on the effectiveness of the previous five years of beach access management and includes all necessary supporting information to implement a beach access management plan for the next five years.

The University will submit a complete NOID, consistent with all CLRDP requirements, to implement its next public beach access management plan at Younger Lagoon Beach (for the period from January 1, 2031 to December 31, 2035) no later than July 1, 2030.

Beach Monitoring Program (continue unchanged)
The University will continue to monitor YLR Beach as required by, and described in, IM 3.6.3. The goal of the monitoring program is to document the presence and distribution of flora and fauna within YLR and to evaluate changes in distribution and density over time. The University will continue to monitor the following variables: user data, changes as observable in photo documentation, tidewater goby surveys, species composition and seed production of beach dune vegetation, species composition of animals, and abundance of feeding shore birds. Details for each of the aforementioned parameters are described below.

User Data— User data from tours and other outreach and education programming conducted by the Seymour Center, as well as research and education use of YLR, will be recorded and maintained by Seymour Center and YLR Staff.

Human Beach Use— We will use remote cameras to quantify human use of YLR Beach. A camera will be placed along the western edge of Younger Lagoon quarterly with each separate sampling events each consisting of two days. Cameras will be set to automatically take photos at 15-minute intervals. Number of people will be quantified for 15-minute intervals during the day (camera time will vary across sampling periods due to day length and position; however, we will standardize within each sampling period).

Photo Documentation—Photo point locations have been established at three locations within YLR (Figure 12). These locations were chosen to ensure coverage of all major areas of the beach. Photos will continue to be taken annually during late spring to early summer (May – July). Photos will be taken at these photo points to ensure repeatability over time. At each photo point we will collect the following monitoring information:

- Photo point number
- Date
- Name of photographer
- Bearing
- Camera and lens size
- Coordinates
- Other comments

In addition to these three points, a permanent camera has been installed on the west side of the lagoon.

Tidewater Goby Surveys— Tidewater goby surveys will be conducted at YLR Beach quarterly each year. Surveys will be conducted using a 4.5 ft x 9 ft beach seine with 1/8 inch mesh. The objectives of the surveys are to document tidewater goby presence and evidence of breeding activity (determined by the presence of multiple size/age classes). All fish will be identified to species and counted. When individuals exceed ~50 per seine haul, counts will be estimated. Sampling will be conducted with the goal of surveying the various habitats at the lagoon (e.g. sand, sedge, willow, pickleweed, deep, shallow, etc.).

Figure 12. Locations of monitoring points, plots, and regions for YLR beach. The beach monitoring area, survey points, and track stations will vary between years depending upon the high water mark. Dune plant surveys will occur within 10 m of the high water mark as per the CLRDP guidelines.

Species Composition and Coverage of Beach Dune Vegetation—Implementation Measure 3.6.3 requires that dune vegetation "*from the lowest (nearest to the mean high tide line) occurring terrestrial plant to 10 meters inland into the strand vegetation*" be surveyed to document species composition, cover, and seed production. Figure 12 shows a potential survey area for dune vegetation; however, the exact location and extent of survey area will vary annually depending upon the location of the "lowest" plant detected each year. Within the survey area we will establish a 50-m east-west transect across the dune vegetation and measure the distance from the estimated mean high tide line to the "lowest" plant on the beach. Herbaceous species composition will be measured by visual estimation of absolute cover for each species in ten 0.25 m^2 quadrats along the transect. Quadrats will be placed every 5 m on alternating sides of the transect starting at a randomly selected point between 1 and 5 meters (a total of 10 quadrats per transect). A clear plastic card with squares representing 1, 5, and 10% of the sampling frame will be used to help guide visual cover estimations. Species cover (native and exotic), bare ground, and litter will be estimated at 5% intervals. Litter will be specifically defined as residue from previous year's growth while any senescent material that is recognizable as growth from earlier in the current growing season will be counted as cover for that species. After all cover estimates have been made, we will conduct surveys within 2 m of either side of the transect (a 4 × 50 m belt). In the belt transects, individual species will be recorded as either seedlings or greater than 1 year old. The presence of flowers and seeds will also be noted.

Non-avian Vertebrate Monitoring

Tracks— Vertebrate tracks will be measured using raked sand plots quarterly throughout the study period. Tracking stations will be placed throughout the beach area in constriction zones where vegetation is absent. The objective of these surveys will be simply to detect what species use the beach habitat. As such, plot size will vary depending upon the amount of available open sandy area at each location. Track stations will be raked each evening and checked for tracks in the morning. Stations will remain open for two days during each monitoring bout. Tracks will be identified to species when possible. Species composition will be summarized; however, abundance will not be quantified due to the fact that most often tracks cannot be used to identify individual animals (e.g. a single individual could walk across the plot multiple times).

Small Mammals—Sherman live traps will be placed on beach habitat for two nights every quarter of the study period. A total of 30 traps will be placed at each site and sampled for a period of two evenings (60 trap nights per sampling bout). Traps will be set at dusk and collected at dawn. Each trap will be baited with rolled oats and piece of synthetic bedding material will be placed in each trap

to ensure animals do not get too cold. Individuals will be identified to species, marked with a unique ear tag, and released at the site of capture.

Invertebrate Monitoring—Terrestrial invertebrates on beach habitat will be monitored by placing one 12 oz plastic container (pit fall traps) at each tracking station (one at each plot) during "non-avian vertebrate monitoring" efforts. Traps will be buried to the lip of the container; terrestrial vertebrates fall into the trap passively. Traps will be checked each morning, and all individuals will be identified and counted.

Avian Monitoring—Ocular surveys of birds on the beach, lagoon, and cliff habitats will be conducted at each site. Survey locations will be selected along one edge of the beach on the cliff. The entire beach area, fore portion of the lagoon, and western cliff will be surveyed from the eastern edge of the lagoon. The top and western face of the rock stack that is located at the beach/ocean edge will also surveyed. Counts will be recorded quarterly throughout the study. Surveys will be conducted in the dawn or dusk hours within approximately 2 hours of sunrise or sunset and of one another. Data from the two days during each sampling effort will be combined and individuals will be identified and counted.

Recommendations

The University's believes that the current free docent-guided beach tour program is successful and strikes an appropriate balance between resource protection of the beach and lagoon area (all of which are considered Environmentally Sensitive Habitat Area (ESHA) or ESHA buffer by the Commission), research protection, and meaningful public access to Younger Lagoon Beach. The University's extensive biological monitoring program - including avian monitoring during beach tours, indicates that tours are having a negative impact on birds on the beach. The University recommends continued monitoring of the flora and fauna of the beach and cautions against further increasing the number of tours or number of tour attendees per tour to protect sensitive resources and research. Although similar in many ways to other local pocket beaches, Younger Lagoon beach supports a unique assemblage of flora and fauna, including rare and endangered species and requires a public access approach unique to continued protection of these coastal resources. As part of the UC Natural Reserve System, Younger Lagoon Reserve supports the UC mission of education, research and public service, acts as a protected living laboratory and outdoor classroom and is managed in trust for the people of the State of California. The University recognizes the unique circumstances

surrounding the access limits at Younger Lagoon Beach and is committed to working with the Commission to successfully implement NOID 13 (25-1).

Appendix I. Younger Lagoon Bird List

Birds of Younger Lagoon

LOONS
Red-throated Loon
Pacific Loon
Common Loon

GREBES
Pied-billed Grebe
Horned Grebe
Red-necked Grebe
Eared Grebe
Western Grebe
Clark's Grebe

FULMARS and SHEARWATERS
Northern Fulmar
Pink-footed Shearwater
Buller's Shearwater
Sooty Shearwater
Black-vented Shearwater

PELICANS and CORMORANTS
Brown Pelican
Double-crested Cormorant
Brandt's Cormorant
Pelagic Cormorant

FRIGATEBIRDS
Magnificent Frigatebird

HERONS and EGRETS
American Bittern
Great Blue Heron
Great Egret
Snowy Egret
Cattle Egret
Green Heron
Green-backed Heron
Black-crowned Night Heron

WATERFOWL
Tundra Swan

OWLS
Barn Owl
Great Horned Owl
Burrowing Owl
Short-eared Owl

SWIFTS
Black Swift
Vaux's Swift
White-throated Swift

HUMMINGBIRDS
Anna's Hummingbird

Rufous Hummingbird
Allen's Hummingbird

KINGFISHERS
Belted Kingfisher

WOODPECKERS

Downy Woodpecker
Northern Flicker
(Common Flicker)

FLYCATCHERS and KINGBIRDS
Western Wood Pewee
Willow Flycatcher
Pacific-slope Flycatcher
Black Phoebe
Say's Phoebe
Ash-throated Flycatcher
Tropical Kingbird
Western Kingbird

LARKS
Horned Lark

SWALLOWS
Tree Swallow
Violet-green Swallow
Northern

Birds of Younger Lagoon

Mute Swan
Snow Goose
Brant
Canada Goose
Green-winged Teal
Mallard
Northern Pintail
Cinnamon Teal
Northern Shoveler
Gadwall
Eurasian Wigeon
American Wigeon
Ring-necked Duck
Greater Scaup
Lesser Scaup
Harlequin Duck
Black Scoter
Surf Scoter
White-winged Scotter
Common Goldeneye
Bufflehead
Hooded Merganser
Red-breasted Duck
Ruddy Duck

VULTURES, HAWKS, and EAGLES

Turkey Vulture
Osprey
White-tailed Hawk
(Black
Northern Harrier
Sharp-shinned Hawk
Cooper's Hawk
Red-shouldered Hawk
Red-tailed Hawk
Ferruginous Hawk
Rough
Golden Eagle
American Kestrel
Merlin
Peregrine Falcon

QUAILS and PHEASANTS

Ring-necked Phaesant

Rough-winged Swallow
Cliff Swallow
Barn Swallow

JAYS and CROWS

Western Scrub
American Crow
Common Raven

CHICKADEES and BUSHTITS

Chestnut-backed Chickadee
Chickadee
Bushtit

WRENS

Bewick's Wren
House Wren
Marsh Wren

KINGLETS

Golden-crowned Kinglet
Ruby-crowned Kinglet

THRUSHES

Swainson's Thrush

Hermit Thrush
American Robin

WRENTITS

Wrentit

MOCKINGBIRDS and THRASHERS

Northern Mockingbird
Sage Thrasher

WAGTAILS and PIPITS

Yellow Wagtail
American Pipit (Water Pipit)

WAXWINGS and SHRIKES

Cedar Waxwing
Loggerhead Shrike

STARLINGS

Birds of Younger Lagoon

California Quail
European Starling

RAILS and COOTS
Virginia Rail
Sora
Common Moorhen
American Coot

SHOREBIRDS
Black -bellied Plover
Snowy Plover
Semipalmated Plover
Killdeer
American Oystercatcher
(American Black
Oystercatcher
Black-necked Stilt
American Avocet
Greater Yellowlegs
Lesser Yellowlegs
Willet
Wandering Tattler
Spotted Sandpiper
Whimbrel
Long-billed Curlew
Marbled Godwit
Ruddy Turnstone
Black Turnstone
Surfbird
Sanderling
Western Sandpiper
Least Sandpiper
Baird's Sandpiper
Pectoral Sandpiper
Dunlin
Short-billed Dowitcher
Long-billed Dowitcher
Wilson's Snipe
Common Snipe

PHALARONES
Red-necked Phalarope
Red Phalarope

VIREOS
Warbling Vireo

WARBLERS
Orange-crowned Warbler
Yellow Warbler
Yellow-rumped Warbler
Townsend's Warbler
Palm Warbler
Northern Waterthrush
MacGillivray's Warbler
Common Yellowthroat
Wilson's Warbler

BUNTINGS and GROSBEAKS
Indigo Bunting
Dickcissel

TOWHEES and SPARROWS
Spotted Towhee
Canyon Towhee
Chipping Sparrow
Clay-colored Sparrow
Vesper Sparrow
Lark Sparrow
Savannah Sparrow
Fox Sparrow
Song Sparrow
Lincoln's Sparrow
Swamp Sparrow
White-throated Sparrow
Golden-crowned Sparrow
White-crowned Sparrow

JUNCOS and LONGSPURS
Dark-eyed Junco
Lapland Longspur

BLACKBIRDS, MEADOWLARKS, and ORIOLES
Bobolink
Red-winged Blackbird
Tricolored Blackbird

Birds of Younger Lagoon

JAEGERS
Pomarine Jaeger
Parasitic Jaeger

GULLS
Bonaparte's Gull
Heermann's Gull
Mew Gull
Ring-billed Gull
California Gull
Herring Gull
Thayer's Gull
Western Gull
Glaucous-winged Gull
Black-legged Kittiwake
Sabine's Gull

TERNS
Caspian Tern
Elegant Tern
Common Tern
Arctic Tern
Forster's Tern

ALCIDS
Common Murre
Pigeon Guillemot
Marbled Murrelet
Ancient Murrelet
Rhinoceros Auklet

DOVES and PIGEONS
Rock Pigeon
Band-tailed Pigeon
Mourning Dove

Western Meadowlark
Rusty Blackbird
Brewer's Blackbird
Brown-headed Cowbird
Hooded Oriole
Scott's Oriole

FINCHES
House Finch
Pine Siskin
Lesser Goldfinch
Lawrence's Goldfinch
American Goldfinch

WEAVER FINCHES
House Sparrow

Appendix II: Younger Lagoon Mammal List

Mammals of Younger Lagoon
DIDELPHIDAE
Virginia Opossum *Didelphis virginiana*

SORICIDAE
Vagrant Shrew *Sorex sp.*

LEPORIDAE
Brush Rabbit *Sylvilagus bachmani*

SCIURIDAE
California Ground Squirrel *Spermophilus beecheyi*

GEOMYIDAE
Botta's Pocket Gopher *Thomomys bottae*

CRICETIDAE
Western Harvest Mouse *Reithrodontomys megalotis*
Deer Mouse *Peromyscus maniculatus*
Pinyon Mouse *Peromyscus truei*
Dusky-footed Woodrat *Neotoma fuscipes*
California Vole *Microtus californicus*

MURIDAE
Norway Rat *Rattus norvegicus*
House Mouse *Mus musculus*

CANIDAE
Coyote *Canis latrans*
Common Gray Fox *Urocyon cinereoargenteus*

PROCYONIDAE
Common Raccoon *Procyon lotor*

MUSTELIDAE
Long-tailed Weasel *Mustela frenata*
Striped Skunk *Mephitis mephitis*

FELIDAE
Bobcat *Felis rufus*
CERVIDAE
Mule Deer *Odocoileus hemionus*

Appendix III: Younger Lagoon Plants

FAMILY	*Scientific name*	Common name
FERNS AND FERN-ALLIES		
DENNSTAEDTIACEAE		
	Dryopteris argute	Coastal wood fern
	Polypodium californicum	California polypody
	Polystichum munitum	Sword Fern
	Pteridium aquilinum var. pubescens	Bracken fern
CONIFERS (GYMNOSPERMS)		
PINACEAE		
	**Pinus radiate*	Monterey pine
CUPRESSACEAE		
	**Hesperocyparis macrocarpa*	Monterey cypress
FLOWERING PLANTS (ANGIOSPERMAE - DICOTYLEDONEAE)		
ADOXACEAE		
	Sambucus nigra	Black elderberry
	Sambucus racemosa var. racemosa	Pacific red elderberry
AIZOACEAE		
	**Carpobrotus edulis*	Iceplant
ANACARDIACEAE		
	Toxicodendron diversilobum	Poison oak
APIACEAE		
	**Conium maculatum*	Poison hemlock
	**Foeniculum vulgare*	Fennel
	Oenanthe sarmentosa	Pacific oenanthe
	Sanicula arctopoides	Footsteps of spring
	Sanicula crassicaulis	Pacific sanicle

ASTERACEAE		
	Achillea millefolium	Yarrow
	Ambrosia chamissonis	Beach bur
	Anaphalis margaritacea	Pearly everlasting
	**Anthemis cotula*	Stinking pineapple weed
	**Artemisia biennis*	Biiennial wormwood
	Artemisia californica	California sagebrush
	Artemisia douglasiana	Douglas' mugwort
	Artemisia pycnocephala	Beach sagewort
	Baccharis glutinosa	Douglas' baccharis
	Baccharis pilularis	Coyote brush
	**Carduus pycnocephalus*	Italian thistle
	**Centaurea melitensis*	Malta star thistle
	**Circium arvense*	Canada thistle
	Circium quercetorum	Brownie thistle
	**Cirsium vulgare*	Bull thistle
	Corethrogyne filaginifolia	Common sandaster
	Cotula coronopifolia	Brass buttons
	**Delairea odorata*	Cape ivy
	Erigeron Canadensis	Horseweed
	Erigeron glaucus	Seaside daisy
	Eriophyllum staechadifolium	Lizard's tail
	Gnaphalium palustre	Western marsh cudweed
	Grindelia stricta	Coastal gum plant
	**Helminthotheca echioides*	Bristly oxtounge
	**Hypocharis glabra*	Smooth cat's ear
	**Hypocharis radicata*	Rough cat's ear
	**Hypocharis glabra*	Bristly ox-tonge
	Jaumea carnosa	Fleshy jaumea
	**Lactuca serriola*	Prickly lettuce
	Madia gracilis	Gumweed
	**Matricaria discoidea*	Pineapple weed
	Pseudognaphalium beneolens	Cudweed
	Pseudognaphalium californicum	Ladies tobacco
	**Pseudognaphilum luteoalbum*	Jersey cudweed
	Pseudognaphalium ramosissimun	Pink everlasting

	Pseudognaphalium stramineum	Cottonbatting plant
	**Senecio cf. elegans*	Purple ragwort
	**Silybum marianum*	Milk thistle
	**Sonchus asper*	Spiny sowthistle
	**Sonchus oleraceus*	Common sowthistle
	Symphyotrichum chilense	California aster
BORAGINACEAE		
	Heliotropium curassavicum	Seaside heliotrope
BRASSICACEAE		
	Barbarea Orthoceras	Winter cress
	**Brassica nigra*	Black mustard
	**Brassica rapa*	Field mustard
	**Cakile maritime*	Beach rocket
	**Raphanus sativus*	Wild radish
	**Sinapis arvensis*	Charlock mustard
CAPRIFOLIACEAE		
	Symphoricarpos albus	Common snowberry
CARYOPHYLLACEAE		
	Spergularia macrotheca	Sand spurry
	**Silene gallica*	Common catchfly
CHENOPODIACEAE		
	Atriplex patula	Saltbush
	**Atriplex prostrata*	Fat-hen
	**Chenopodium album*	Lamb's quarters
	**Chenopodium macrospermum*	Largeseed goosefoot
	Salicornia pacifica	Pickleweed
CONVOLVULACEAE		
	Calystegia occidentalis	Western morning glory
	Calystegia purpurata	Morning glory
	Calystegia soldanella	Beach morning glory
CRASSULACEAE		
	Dudleya farinaosa	Sea lettuce

CUCURBITACEAE		
	Marah fabaceus	Wild cucumber
DIPSACACEAE		
	**Dipsacus fullonum*	Fuller's teasel
FABACEAE		
	Acmispon glaber	Deer weed
	**Genista monspessulana*	French broom
	Lupinus albifrons	Silver leaf lupine
	Lupinus arboreus	Yellow bush lupine
	Lupinus bicolor	Miniature lupine
	Lupinu nanus	Sky lupine
	**Medicago polymorpha*	Burr clover
	**Melilotus indicus*	Yellow sweet clover
	**Trifolium angustifolium*	Narrowleaf clover
	Trifolium willdenovii	Tomcat clover
	**Vicia sativa ssp. Sativa*	Common vetch
FRANKENIACEAE		
	Frankenia salina	Alkali heath
GERANIACEAE		
	**Erodium botrys*	Longbeak stork's bill
	**Erodium cicutarium*	Red stemmed filaree
	**Erodium moschatum*	White stemmed filaree
	**Geranium dissectum*	Cutleaf geranium
GROSSULARIACEAE		
	Ribes divaricatum	Spreading gooseberry
	Ribes sanguineum	Flowering currant
IRIDACEAE		
	Sisyrinchium bellum	Blue eyed grass
LAMIACEAE		
	Clinopodium douglasii	Yerba buena
	**Marrubium vulgare*	Common horehound
	Prunella vulgaris	Selfheal

	Stachys bullata	hedge nettle
MALVACEAE		
	**Malva nicaeenis*	Bull mallow
	**Malva parviflora*	Cheeseweed
	Sidalcea malviflora	Checkerbloom
MONTIACEAE		
	Claytonia perfoliate	Miners lettuce
MYRICACEAE		
	Morella californica	California wax myrtle
MYRINACEAE	**Anagallis arvensis*	Scarlet pimpernel
NYCTAGINACEAE		
	Abronia latifolia	Yellow sand verbena
	Abronia umbellata ssp. umbellata	Pink sand verbena
ONAGRACEAE		
	Camissoniopsis cheiranthifolia	Beach evening-primrose
	Epilobium brachycarpum	Fireweed
	Epilobium canum	California fuchsia
	Epilobium ciliatum ssp. watsonii	Willow herb
	Taraxia ovata	Sun cup
OXALIDACEAE		
	Oxalis albicans	Hairy wood sorrel
	Oxalis pes caprae	Bermuda buttercup
PAPAVERACEAE		
	Eschscholzia californica	California poppy
PHRYMACEAE		
	Mimulus aurantiacus	sticky monkey flower
	Mimulus guttatus	seep monkey flower
PLANTAGINACEAE		
	**Plantago coronopus*	Cut leaf plantain
	**Plantago lanceolata*	English plantain
	Plantago maritima	California seaside plantain
PLUMBAGINACEAE		
	Armeria maritima	California seapink

POLEMONIACEAE		
	Navarretia squarrosa	Skunkweed
POLYGONACEAE		
	Eriogonum latifolium	Coastal buckwheat
	Persicaria punctata	Dotted smartweed
	** Polygonum aviculare*	Prostrate knotweed
	**Rumex acetosella*	Sheep sorrel
	**Rumex conglomeratus*	Green dock
	Rumex crassus	Willow-leaved dock
	**Rumex crispus*	Curly dock
RANUNCULACEAE		
	Ranunculus californicus	California buttercup
RHAMNACEAE		
	Frangula californica	California coffeeberry
PORTULACACEAE		
	**Portulaca oleracea*	Purslane
RHAMNACEAE		
	Ceanothus thyrsiflorus	Blueblossom
ROSACEAE		
	Acaena pinnatifida var. californica	California sheepburr
	Fragaria chiloensis	Beach strawberry
	Horkelia californica	Californica horkelia
	Potentilla anserina ssp. pacifica	Pacific silverweed
	Rosa californica	California wild rose
	Rosa gymnocarpa	Wood rose
	Rubus ursinus	California blackberry
	Rubus armeniacus	Himalayan blackberry
RUBIACEAE		
	***Galium sp.*	**Bedstraw
SALICACEAE		
	Salix lasiolepis	Arroyo willow
SAPINDACEAE		
	Aesculus californica	California buckeye

SCROPHULARIACEAE		
	Scrophularia californica ssp. californica	Bee plant
SOLANACEAE		
	Solanum americanum	American black nightshade
	**Solanum nigrum*	Black nightshade
URTICACEAE		
	Urtica dioica ssp. gracilis	Stinging nettle
	Urtica holosericea	Hoary nettle
FLOWERING PLANTS (ANGIOSPERMAE - MONOCOTYLEDONEAE)		
AGAVACEAE		
	Chlorogalum pomeridianum	Soap plant
CYPERACEAE		
	Bolboschoenus maritimus	Praire bulrush
	Bolboschoenus robustus	Seacoast bulrush
	Carex hafordii	Monterey sedge
	Carex obnupta	Slough sedge
	Cyperus eragrostis	Tall cyperus
	Eleocharis macrostachya	Creeping spike rush
	Isolepis cernua	Low bulrush
	Schoenoplectus acutus var. occidentalis	Hardstem bulrush
	Schoenoplectus americanus	3 Square sedge
	Schoenoplectus californicus	California tule
	Schoenoplectus cernuus var. californicus	Low club rush
JUNCACEAE		
	Juncus balticus	Baltic rush
	Juncus bufonius	Toad rush
	Juncus effusus brunneus	Bog rush
	Juncus mexicanus	Mexican rush
	Juncus occidentalis	Western rush
	Juncus patens	Common rush
	Juncus phaeocephalus	Brown-headed rush
LILIACEAE		
	Triteleia laxa	Ithuriel's spear
MELANTHIACEAE		

	Toxicoscordion fremontii	Fremont's star lily
POACEAE		
	Agrostis pallens	Bent grass
	**Aira caryophyllea*	Shiver grass
	**Avena barbata*	Slender oat
	**Avena fatua*	Wild oat
	**Briza minor*	Liittle quaking grass
	**Brachypoduim distachyon*	False brome
	Bromus carinatus	California brome
	**Bromus catharticus*	Rescue grass
	**Bromus diandrus*	Ripgut brome
	**Bromus hordeaceus*	Soft chess
	**Bromus madritensis ssp. madritensis*	Foxtail chess
	Bromus marginatus var. maritimus	Seaside large mountain brome grass
	**Cortaderia jubata*	Jubata grass
	**Cynodon dactylon*	Bermuda grass
	* *Cynosurus echinatus*	Dogtail grass
	Danthonia californica	California oatgrass
	Distichlis spicata	Salt grass
	Elymus glacus	Blue wild rye
	Elymus triticoides	Beardless wild rye
	Festuca californica	California fescue
	**Ehrharta erecta*	Panic veldtgrass
	**Festuca bromoides*	Six weeks fescue
	Festuca rubra	Creeping red fescue
	**Festuca myuros var. myuros*	Rat tail fescue
	* *Festuca perennis*	Italian ryegrass
	**Holcus lanatus*	Velvet grass
	Hordeum brachyantherum	Meadow barley
	**Hordeum murinum ssp. leporinum*	Farmer's foxtail
	Koeleria macrantha	June grass
	Melica californica	California melicgrass
	Melica torreyana	Torrey's melica
	**Polypogon monspeliensis*	Annual rabitsfoot grass
	Stipa lepida	Foothill needlegrass
	Stipa pulchra	Purple needlegrass

THEMIDACEAE		
	Brodiaea elegans ssp. elegans	Harvest brodiaea
TYPHACEAE		
	Sparganium eurycarpum var. greenei,	Simplestem bur-reed
	Typha domingensis	Southern cattail
	Typha latifolia	Broadleaf cattail
*denotes non-native plant		
**denotes species where identification is only to genera.		

Appendix IV: Younger Lagoon Fish, Reptiles, and Amphibians

Fish, Reptiles, and Amphibians of YLR

Tidewater Goby (*Eucyclogobius newberryi*)
Threespine Stickleback (*Gasterosteus aculeatus*)
Sculpin (unknown)

Reptiles

Common Garter Snake (*Thamnophis sirtalis*)
Common Kingsnake (*Lampropeltis getulus*)
Gopher Snake (*Pituophis melanoleucus*)
Northern Rubber Boa (*Charina bottae*)
Racer (*Coluber constrictor*)
Ringneck Snake (*Diadophis punctatus*)
Southern Alligator Lizard (*Gerrhonotus multicarinatus*)
Striped Racer (California Whipsnake) (*Masticophis lateralis*)
Western Aquatic Garter Snake (*Thamnophis couchi*)
Western Fence Lizard (*Sceloprus occidentalis*)
Western Pond Turtle (*Clemmys marmorata*)
Western Terrestrial Garter Snake (*Thamnophis elegans*)

Amphibians

California Slender Salamander (*Batrachoseps attenuatus*)
Pacific Treefrog (*Pseudacris regilla*)
California Red-legged Frog (*Rana draytoni)*
American Bullfrog (Lithobates catesbeianus)

1b. CLRDP Consistency Determination

As stated in Policy 1.1 (Development Consistency), "Development shall be deemed consistent with the CLRDP if it is consistent with the provisions of Chapters 5, 6, 7, 8, 9, and Appendices A and B."

The following is a list of all the Policies, Implementation Measures and Figures found in Chapter 5. Those that apply directly to this NOID are highlighted in black and followed with a comment regarding the project's consistency; those that do not are indicated with strikethrough text. In addition, any sections of Chapters 6, 7, 8, 9, and Appendices A and B that apply to this NOID are referenced with comments if relevant or as strikethrough text if they are not pertinent to this project.

CHAPTER 5 Long Range Land Use Development Plan

5.1 Application of the Long Range Land Use Development Plan

Policy 1.1 Development Consistency

The University finds the project contemplated under NOID 13 (25-1) to be consistent with the CLRDP.

IM 1.1.1 Figures of Chapter 5.

This project does not involve physical development, but is "development" as defined in Section 8.1.1 and the Coastal Act as a "…change in …intensity of use of land…" Only Figure 5.6 applies and the project is consistent with that figure.

~~IM 1.1.2 Lease Agreements.~~

~~IM 1.1.3 Federal In-holding and CLRDP.~~

Policy 1.2 University Commitments

The University commitments in the CLRDP have been undertaken

5.2. Land Use

~~Figure 5.1 Building Program~~

~~Figure 5.2 Land Use Diagram~~

~~Figure 5.3 Locational Restrictions for Building Program~~

~~Stable Urban / Rural Boundary~~

Policy 2.1 Maintaining a Stable Urban / Rural Boundary

~~IM 2.1.1 Over sizing of Utility Lines Prohibited.~~

~~IM 2.1.2 Utility Prohibition Zone.~~

Policy 2.2 Strengthening the Urban / Rural Boundary through the Protection of Adjacent Agricultural Resources

IM 2.2.1 Setback of Development and Uses from Adjacent Agricultural Use.

As mentioned in IM 1.1.1, the project does not involve physical development, therefore agricultural setback does not apply.

Policy 2.3 Designing for the Urban Edge

~~IM 2.3.1 Cluster Development.~~

~~IM 2.3.2 Impervious Coverage.~~

~~IM 2.3.3 Windbreak Vegetation~~

~~IM 2.3.4 Buildout Planning.~~

~~IM 2.3.5 Interim Weed Abatement Measures for Undeveloped Land Within Development Zones.~~

Short-term and Caretaker Accommodations

Policy 2.4 Short-term and Caretaker Accommodations

~~IM 2.4.1 Short-Term Accommodation Use Restrictions.~~

~~IM 2.4.2 Caretaker Accommodations.~~

~~IM 2.4.3 Use Conversion.~~

Campus Land Uses Limited to Marine / Coastal Research and Education, Resource Protection, and Public Access

Policy 2.5 Ensuring Appropriate Land Uses on the Marine Science Campus

5.3 Natural Resource Protection

Policy 3.1 Protection of the Marine Environment

~~IM 3.1.1 Seawater System.~~

~~IM 3.1.2 Discharge of Drainage/Storm water.~~

Policy 3.2 Protection and Restoration of Habitat Areas

~~IM 3.2.1 Restoration of Wetlands on the Marine Science Campus.~~

~~IM 3.2.2 Management of Terrace Wetlands.~~

~~IM 3.2.3 Protection and Enhancement of Wildlife Movement.~~

~~IM 3.2.4 Management of Special Status Species Habitat.~~

IM 3.2.5 Protect Habitat Areas From Human Intrusion.

Under the project, the tours will use the existing YLR trails and will be docent-led. Additional wayfinding and interpretive signage are not required.

~~IM 3.2.6 Natural Area Management.~~
~~IM 3.2.7 Management of Water Quality and Drainage Features.~~
~~IM 3.2.8 Maintenance and Monitoring of Terrace Habitats.~~
~~IM 3.2.9 Wetland Buffers.~~
~~IM 3.2.10 Natural Areas Habitat Management.~~
~~IM 3.2.11 CRLF Protection.~~
~~IM 3.2.12 USFWS Consultation Required~~
~~IM 3.2.13 Rodenticides.~~
~~IM 3.2.14 Non-Invasive Native Plant Species Required.~~

Policy 3.3 Use and Protection of Coastal Waters and Wetlands

~~IM 3.3.1 Pre-development Evaluation of Wetland Conditions.~~
~~IM 3.3.2 Update CLRDP With Respect to Wetlands.~~

Policy 3.4 Protection of Environmentally Sensitive Areas (ESHAs)

~~IM 3.4.1 Additional Measures to Protect Habitat Areas.~~
~~IM 3.4.2 Noise Intrusion into Terrace ESHA.~~
~~IM 3.4.3 Noise Intrusion into LR (original YLR).~~
~~IM 3.4.4 Pre-development Evaluation of ESHA Conditions.~~
~~IM 3.4.5 Update CLRDP With Respect to ESHA.~~

Younger Lagoon Reserve

Policy 3.5 Special Protection for the Original Younger Lagoon Reserve

IM 3.5.1 Protection and Enhancement of YLR Habitats.

This project addresses limited access of humans to Younger Lagoon.

IM 3.5.2 Protection of Special Status Species in YLR.

Based on the results of the previous 5-year monitoring program, no special status species are anticipated to be impacted.

IM 3.5.3 Protection of YLR Resources.

Increased visitor use to beach as part of the required actions of IM 3.6.3 has the potential to impact flora and fauna. Only supervised tours will be permitted in order to minimize this potential impact.

IM 3.5.4 Development of Monitoring and Maintenance Program.

Plant, animal, and human activities/presence will be monitored as part of this project.

~~IM 3.5.5 Siting of Windbreak Vegetation.~~

IM 3.5.6 YLR Manager Consultation.

The Administrative Director of the UCSC Natural Reserves and the Director of Younger Lagoon Natural Reserve have reviewed the scope of the Public Access to and Within Younger Lagoon Natural Reserve Project (NOID 13 (25-1)) and concur the Project would not result in significant impacts to the Reserve beyond those described above.

DocuSigned by:
9BC30C461A434AF...

Gage Dayton, Administrative Director, UCSC Natural Reserves

6/23/2025
Date

IM 3.5.7 Movement Not Visible From YLR (original YLR)

Monitoring efforts and public use of Younger Lagoon will be visible from the original Younger Lagoon Reserve.

~~IM 3.5.8 Protective Measures for YLR (original YLRR) in Middle Terrace.~~

Policy 3.6 Public Access to and within YLR (original YLR)

IM 3.6.1 Provision of Controlled Access within YLR (original YLR).

The project is consistent with public access polices for the beach and lagoon areas of YLR.

IM 3.6.2 Visual Access to YLR (original YLR).

Visual access to the original YLR is available from existing overlooks.

IM 3.6.3 Public Beach Access within YLR (original YLR).

This project addresses Implementation Measure 3.6.3: *"Public Access to and within YLR."* The project description provides details pertaining to the schedule of tours of the beach at the YLR, parameters for beach access and a program to monitor the effects of human, plant, and animal use/presence on the beach. An assessment of beach area resources and the effect of beach area use and activities on these resources is included.

Coastal Bluffs and Blufftops

Policy 3.7 Protection of Coastal Bluff and Bluff top Areas

~~IM 3.7.1 Bluff Setbacks.~~
~~IM 3.7.2 Coastal Bluff and Bluff top Area Protection and Enhancement Measures.~~
~~IM 3.7.3 Protecting Existing Development from Coastal Erosion.~~

Agricultural Resources

Policy 3.8 Protection of Adjacent Agricultural Resources

~~IM 3.8.1 Cooperation.~~
~~IM 3.8.2 Agreement to Indemnify and Hold Harmless.~~

Cultural Resources

Policy 3.9 Conservation of Cultural Resources

~~IM 3.9.1 Construction Monitoring.~~

Hazardous Materials Management

Policy 3.10 Hazardous Materials Management
~~IM 3.10.1 Hazardous Materials Management.~~
~~IM 3.10.2 Protective Measures for Laydown Yard.~~
Air Quality and Energy Consumption
Policy 3.11 Energy Efficiency in New Construction
~~IM 3.11.1 Energy Efficiency in New Construction.~~
~~IM 3.11.2 Energy Efficiency in Use.~~
Policy 3.12 Air Quality and Energy Conservation through Land Use and Transportation Controls
~~IM 3.12.1 Air Quality and Energy Conservation through On-Campus Short-Term Accommodations.~~
~~IM 3.12.2 Air Quality and Energy Conservation through Controlling Travel Mode Split.~~
~~IM 3.12.3 Air Quality and Energy Conservation through Parking Control.~~
~~IM 3.12.4 Air Quality and Energy Conservation through Alternative Transportation.~~
~~IM 3.12.5 Air Quality and Energy Conservation through Transportation Demand Management.~~
Natural Resource Protection Analysis
Policy 3.13 Natural Resource Protection Analysis Required
Policy 3.14 Permanent Protection
~~IM 3.14.1 Natural Areas Protection.~~

5.4. Scenic and Visual Qualities
~~Figure 5.4 Development Subareas~~
Policy 4.1 Protection of Scenic Views
~~IM 4.1.1 Location of Development.~~
Policy 4.2 Protection of Scenic Quality
~~IM 4.2.1 Design Standards and Illustrative Campus Build-out Site Plan.~~
~~IM 4.2.2 Alteration of Natural Landforms.~~
~~IM 4.2.3 Building and Other Structure Heights.~~
~~IM 4.2.4 Laboratory Buildings.~~
~~IM 4.2.5 Maximum Building Gross Square Footage.~~
~~IM 4.2.6 Maximum Additional Gross Square Footage in Lower Terrace.~~
~~IM 4.2.7 Construction Materials.~~
~~IM 4.2.8 Building Setbacks.~~
~~IM 4.2.9 Building Length Limitations.~~
~~IM 4.2.10 Placement of Utility Lines Underground.~~
~~IM 4.2.11 Windbreak Vegetation.~~
~~IM 4.2.12 Development in Northernmost Portion of Middle Terrace.~~
~~IM 4.2.13 Development Along Edge of Lower Terrace.~~
~~IM 4.2.14 Building Development West of McAllister Way in Lower Terrace.~~
~~IM 4.2.15 Building Development West of McAllister Way in Middle Terrace.~~
~~IM 4.2.16 Building Development Outside of Subareas Prohibited.~~
Policy 4.3 Visual Intrusion and Lighting
~~IM 4.3.1 Visual Intrusion into YLR (original YLR).~~
~~IM 4.3.2 Visual Intrusion into YLR (Terrace Lands).~~
~~IM 4.3.3 All Lighting.~~
~~IM 4.3.4 Building Lighting.~~
~~IM 4.3.5 Street and Trail Lighting.~~
~~IM 4.3.6 Parking Lot and Maintenance Yard Lighting.~~
~~IM 4.3.7 Sign Lighting.~~
~~IM 4.3.8 Lighting Plan Required.~~

5.5. Circulation and Parking
~~Figure 5.5 Circulation and Parking Diagram~~
Auto Circulation
Policy 5.1 Vehicular Access
~~IM 5.1.1 New Circulation System.~~
~~IM 5.1.2 Improve Shaffer Road / Delaware Avenue Intersection~~
~~IM 5.1.3 Shaffer Road Improvements.~~
~~IM 5.1.4 Access for Wildlife Across Shaffer Road (Upper Wildlife Corridor).~~
~~IM 5.1.5 Access for Wildlife Across Shaffer Road (Lower Wildlife Corridor).~~
~~IM 5.1.6 Use of Former Access Road.~~
~~IM 5.1.7 Emergency Access.~~
Travel Mode Split
Policy 5.2 Travel Mode Split
~~IM 5.2.1 Encourage Alternatives to Single-Occupant Vehicle.~~
~~IM 5.2.2 Alternatives to the Single-Occupant Vehicle.~~
Parking
Policy 5.3 Parking for Campus Use and Public Coastal Access
~~IM 5.3.1 All Campus Users Off-Hour Parking.~~

~~IM 5.3.2 Public Coastal Access Parking.~~
~~IM 5.3.3 Campus Entrance Public Coastal Access Parking.~~
~~IM 5.3.4 Middle Terrace Public Coastal Access Parking.~~
~~IM 5.3.5 Lower Terrace Dual Use Parking (Public Coastal Access Parking and Discovery Center Parking).~~
~~IM 5.3.6 Lower Terrace Public Coastal Access Parking.~~
~~IM 5.3.7 Parking Demand Satisfied On-Campus.~~
~~IM 5.3.8 Free and/or Low Cost Public Coastal Access Parking.~~

Parking Supply

Policy 5.4 Parking Supply

~~IM 5.4.1 Development of New Parking~~
~~IM 5.4.2 Lease Agreements~~
~~IM 5.4.3 Distribution and Intensity of Parking~~

Parking Management

Policy 5.5 Parking Management

~~IM 5.5.1 Permits Required.~~
~~IM 5.5.2 Public Coastal Access Parking.~~
~~IM 5.5.3 Carpools and Vanpools.~~
~~IM 5.5.4 Parking Management Strategy for Special and/or Temporary Events.~~
~~IM 5.5.5 Entrance Kiosk.~~
~~IM 5.5.6 Parking Limitation Seaward of Whale Skeleton.~~
~~IM 5.5.7 Parking Enforcement.~~

Pedestrian and Bicycle Facilities

Policy 5.6 Promotion of Bicycle Use and Walking

~~IM 5.6.1 Sheltered and Secured Bike Parking.~~
~~IM 5.6.2 Bike Parking Outside Buildings.~~
~~IM 5.6.3 Personal Lockers and Showers.~~
~~IM 5.6.4 Coordinated Marketing with City of Santa Cruz.~~
~~IM 5.6.5 Crosswalk Design.~~
~~IM 5.6.6 Siting Buildings for Ease of Access.~~

Transit

Policy 5.7 Promotion of Transit Use

~~IM 5.7.1 Extension of Santa Cruz Municipal Transit District Transit Services.~~
~~IM 5.7.2 Expansion of Shuttle Services.~~
~~IM 5.7.3 Physical Infrastructure for Transit.~~

Transportation Demand Management (TDM) Coordination

Policy 5.8 TDM Coordination

~~IM 5.8.1 Carpool and Vanpool Services.~~
~~IM 5.8.2 TDM Coordination.~~
~~IM 5.8.3 Transportation Information.~~

Traffic Impacts on City Streets

Policy 5.9 Impacts Offset

Circulation and Parking Plan

Policy 5.10 Circulation and Parking Plan Required

5.6. Public Access and Recreation

~~Figure 5.6 Coastal Access and Recreation Diagram~~

Policy 6.1 Public Access to the Marine Science Campus

~~IM 6.1.1 Free Public Access for Visitors.~~
~~IM 6.1.2 Public Access Parking.~~

IM 6.1.3 Public Access Trails.

Access to trails to the beach are described in the project description.

~~IM 6.1.4 Public Access Overlooks.~~

IM 6.1.5 Docent-Led Tours and Education Programs for the Public.

The project provides beach access and docent led tours to the YLR beach.

~~IM 6.1.6 Educational Programs for Pre-College Students.~~
~~IM 6.1.7 Interpretive Information.~~

Policy 6.2 Management of Public Areas

~~IM 6.2.1 Public Use Hours for the Marine Science Campus.~~
~~IM 6.2.2 Public Trail Continuity.~~

IM 6.2.3 Access to Resource Protection Areas.

This project provides public access to the Younger Lagoon Beach area in conformance with the CLRDP.

~~IM 6.2.4 Access to Resource Protection Buffer Areas.~~
~~IM 6.2.5 Access to Coastal Bluffs.~~
~~IM 6.2.6 Access to Laboratories and Research Areas.~~
~~IM 6.2.7 Caretaker Residence and Lab Security.~~
~~IM 6.2.8 Bicycles on the Marine Science Campus.~~
~~IM 6.2.9 Domestic Pets.~~

~~IM 6.2.10 Public Access Signage.~~
~~IM 6.2.11 Off-Campus Trail Connectivity.~~
~~IM 6.2.12 Maintenance of Existing Public Access.~~
IM 6.2.13 Public Access to Younger Lagoon Beach.
The project provides public access to Younger Lagoon Beach in conformance with IM 3.6.3.
Policy 6.3 Public Access and Recreation Plan Required

5.7. Hydrology and Water Quality
~~Figure 5.7 Utilities Diagram~~
Policy 7.1 Productivity and Quality of Coastal Waters
~~IM 7.1.1 Management of Storm water and Other Runoff.~~
~~IM 7.1.2 Water Quality Standards.~~
~~IM 7.1.3 Pre- and Post-Development Flows.~~
~~IM 7.1.4 Pre-Development Drainage Patterns Defined.~~
~~IM 7.1.5 Pre-Development Drainage Peak Flow Rates Defined.~~
~~IM 7.1.6 Groundwater Recharge.~~
~~IM 7.1.7 Seawater System (Seawater Containment)~~
~~IM 7.1.8 Irrigation and Use of Chemicals for Landscaping.~~
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CHAPTER 7 Illustrative Campus Buildout Site Plan and Preliminary Designs
Paths used for tours and research are already in place. Beyond normal maintenance, there will be no additional buildout.

CHAPTER 8 Development Procedures

This NOID and the public notification process is submitted in conformance with the requirements of the CLRDP.

CHAPTER 9 Capital Improvement Program

The beach monitoring and guided tours to the beach are consistent with Chapter 9 requirements.

APPENDIX A Resource Management Plan

The proposed project is consistent with the RMP and Younger Lagoon Natural Reserve polices.

APPENDIX B Drainage Concept Plan

The proposed project would have no impervious surface and thus would not affect storm water runoff.

2. University Approval Documentation

See Attached

3. Environmental Compliance Documentation

See Attached

4. Plans, Specifications, etc.

(this section used if project documentation is large format or extensive)

N/A

5. Technical Reports

See attached: Younger Lagoon Natural Reserve Beach Monitoring Report, 2024.
NOID 12 6-Month Beach Monitoring Report Jan-June 2025.

6. Correspondence

2. University Approval Documentation

January 8, 2010

VICE CHANCELLOR THOMAS VANI
Business and Administrative Services

Re: NOID 10-1
Public Access to and Within Younger Lagoon Reserve

Dear Tom:

Notice of Impending Development (NOID) 10-1 Public Access to and Within Younger Lagoon Reserve is an atypical project. As described in IM 3.6.3 in the CLRDP, it would provide for controlled public access to the Younger Lagoon Beach and does not involve physical development. However, this "project" is considered "development" as defined in Section 30106 of the California Coastal Act and Section 8.1.1 of the Coastal Long Range Development Plan because the "project" would result in a "…change in the intensity of use of water, or access thereto…". Applying The Regents' delegated authority for approval of projects, the cost of this project is below the $750,000 threshold and therefore you have the authority to certify the CEQA action and approve the project.

For your consideration, the University's Environmental Classification Form and the "Project Report" prepared for this NOID 10-1 are attached. The Project Report, which has been prepared in consultation with the Office of the President and Office of General Counsel. The Project Report includes a detailed description of the project.

Physical Planning and Construction recommended approval:

Frank Zwart, AIA Campus Architect — Date
Associate Vice Chancellor Physical Planning and Construction

Reviewed by
JB (initials)
John Barnes
Director of Campus Planning

Drafted by: J Barnes
Reviewed by: K. Drumm

ITEM FOR ACTION

FOR VICE CHANCELLOR, BUSINESS AND ADMINSTRATIVE SERVICES APPROVAL

NOID 10-1 PUBLIC ACCESS TO AND WITHIN THE YOUNGER LAGOON NATURAL RESERVE

Associate Vice Chancellor for Physical Planning and Construction recommends that, upon review and consideration of the potential for environmental consequences of the proposed Public Access to and Within the Younger Lagoon Natural Reserve (the Project) as described in the Project Report of Notice of Impending Development 10-1, and in accordance with University Delegation of Authority, the Vice Chancellor of Business and Administrative Services of the Santa Cruz campus:

1. Determine the Public Access to and Within the Younger Lagoon Natural Reserve Project to be Categorically Exempt under the California Environmental Quality Act (CEQA), as described in the Project Report (see Section 1c); the Environmental Compliance Documentation; and

2. Approve the Public Access to and Within the Younger Lagoon Natural Reserve Project

The Project would not result in any significant environmental impacts. The University has determined that the Project is Categorically Exempt from the provisions of CEQA under exemptions: Class 1 (Existing Facilities), Class 6 (Information Collection) and Class 22 (Educational Programs) as shown in the Project's Environmental Impact Classification form (see Section 1c Environmental Compliance Documentation).

APPROVED

Tom Vani
Vice Chancellor, Business and Administrative Services

1.12.2010
Date

1c. Environmental Compliance Documentation

UNIVERSITY OF CALIFORNIA **ENVIRONMENTAL IMPACT CLASSIFICATION**

(revised)

Campus or Field Statio Santa Cruz **Project Account:** _____

Project Title **PUBLIC ACCESS TO AND WITHIN YLR (Revised)**

For purposes of compliance with the California Environmental Quality Act of 1970 (CEQA), and Amended University of California Procedures for Implementation of CEQA, this project has been reviewed and initially classified as indicated below. Please check (X) as appropriate. Include project description and appropriate local map.

X I. EXEMPT FROM THE CALIFORNIA ENVIRONMENTAL QUALITY ACT

When it can be seen with certainty that there is no possibility the action will result in physical changes to the environment or the action is specifically exempted by statute, the project is classified as exempt from CEQA.

X II. CATEGORICALLY EXEMPT

This project falls under the indicated Class of Exemption and there is no significant effect on the environment.

X Class 1: Existing Facilities	___ Class 17: Open Space Contracts
___ Class 2: Replacement or Reconstruction	___ Class 18: Designation of Wilderness Areas
___ Class 3: New Construction of Small Structures	___ Class 19: Annexation of Existing Facilities and Lots
___ Class 4: Minor Alterations to Land	___ Class 20: Changes in Organization of Local Agencies
___ Class 5: Alterations in Land Use Limitations	___ Class 21: Regulatory Enforcement Actions
X Class 6: Information Collection	X Class 22: Educational Programs
___ Class 7: Regulatory Protection of Natural Resources	___ Class 23: Normal Operation
___ Class 8: Regulatory Protection of the Enviromnent	___ Class 24: Regulations of Working Conditions
___ Class 9: Inspection	___ Class 25: Transfer of Ownership of Land to Preserve Open Space
___ Class 10: Loans	___ Class 26: Acquisition Housing for Housing Assistance
___ Class 11: Accessory Structures	___ Class 27: Leasing New Facilities
___ Class 12: Surplus Government Property Sales	___ Class 28: Small Hydroelectric Projects
___ Class 13: Acquisition for Conservation	___ Class 29: Cogeneration Projects
___ Class 14: Minor Additions to Schools	___ Class 30: Minor Actions to Prevent Hazardous Substance Release
___ Class 15: Minor Land Divisions	___ Class 31: Historic Resource Restoration/Rehabilitation
___ Class 16: Transfer of Ownership of Land to Create Parks	___ Class 32: In-fill Development Projects

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___ III. INITIAL STUDY

This project is not Exempt from CEQA or Categorically Exempt; an Initial Study is to be prepared to determine if the project may have a significant effect on the environment that has not been substantially and adequately analyzed in a certified program EIR.

Checklist___ Narrative___

___ IV. ENVIRONMENTAL IMPACT REPORT (EIR)

It is known that the project will have a significant effect on the environment and has not been adequately and substantially analyzed in a certified program EIR.

PROJECT DESCRIPTION: The project would implement CLRDP IM 3.6.3 to provide controlled public access to Younger Lagoon Natural Reserve through docent-guided tours, in conjunction with vegetation and wildlife monitoring. Visitors would use existing trails and timber steps under the supervision of a knowlegeable docent. Effects upon vegetation and wildlife of increased visitation would be monitored over a five-year period through periodic documentation of species composition and seed production of beach dune vegetation, and species composition and abundance of animals present. Data collection methods will include periodic photo documentation, camera traps, track surveys, and population and density counts for various plant and animal species. Although increased visitation has the potential to affect wildlife and vegetation, the project has no potential to result in significant environmental effects because access will be limited and supervised. Concurrent biological data collection will provide input in future decisions regarding on-going public access to the reserve, to avoid significant environmental effects.

V. Does this project conform to the approved CLRDP? X YES ___NOT APPLICABLE

VI Sally Morgan 10/16/09

Prepared by Date

Local Approved by: Thomas Vani 10.20.09

Date

VI OFFICE OF THE PRESIDENT

_____ Concur with Classification

_____ Do not Concur

COMMENTS:

_____ _____

Signed Date

Date

NOID 13 (25-1) was posted on the Coastal Science Campus on June 27, 2025. Posting locations included UCSC's Ocean Health Building, Seymour Center, Coastal Biology Building, NOAA Southwest Fisheries Science Center, CDFW Facility and the campus entrance. A picture of the posting at the campus entrance is included here.

Younger Lagoon Reserve

Beach Monitoring Report

2024

Younger Lagoon Reserve staff conduct a fish seine.

Elizabeth Howard, MA
Younger Lagoon Reserve

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Overview and Executive Summary

CLRDP Implementation Measure (IM) 3.6.3 requires that the public have access to Younger Lagoon Reserve beach through controlled visits, and that a monitoring program be created to document the condition of native flora and fauna within Younger Lagoon and its beach over a five-year period. IM 3.6.3 also requires that the campus prepare a report at the end of the five-year period which presents the results of the monitoring and a discussion of the potential effect of controlled beach access on flora and fauna at Younger Lagoon. At the end of each five-year period, the University must submit a Notice of Impending Development (NOID) to the Coastal Commission to implement a beach access plan for the next five years (e.g. 2010, 2015, 2020, 2025, 2030).

In March 2010, the California Coastal Commission approved UC Santa Cruz's first NOID for Implementation Measure 3.6.3 [NOID 2 (10-1)] as consistent with UCSC's approved Coastal Long Range Development Plan.

On September 13, 2018, the California Coastal Commission approved UC Santa Cruz's NOID 9 (18-1) as consistent with UCSC's approved Coastal Long Range Development Plan with the addition of five staff-recommended special conditions. These included 1) Free Beach Tours, 2) Beach Tour Outreach Plan, 3) Beach Tour Signs, 4) Beach Tour Availability and Monitoring, and 5) Beach Access Management Plan Duration. Because NOID 9 (18-1) was not approved until 2018, special condition 5 required the University to submit the next beach management NOID by June 30, 2020 to get back on the 5-year review schedule.

On October 7, 2020, the California Coastal Commission approved UC Santa Cruz's NOID 12 (20-1) as consistent with UCSC's approved Coastal Long Range Development Plan with the addition of new requirements supplementing the existing (NOID 9 18-1) five staff-recommended special conditions.

This document serves as both a summary report for beach monitoring activities under NOIDs 2 (10-1), 9 (18-1), and 12 (20-1) that have taken place since our previous report at the end of fiscal year 2023 and a summary report for the entire 14-year monitoring program. All year's results are included. Data collected indicate that Younger Lagoon Reserve (YLR) supports a wide variety of native flora and fauna, provides habitat for sensitive and threatened species, supports a very unique beach dune community, and is extensively used for research and education. In general, in comparison to the other local beaches surveyed native plant species richness is greatest at YLR and Natural Bridges; however, there is quite a bit of annual variation among the sites. A parameter that we quantified in 2012, and is evident from visual observation and photo documentation, is the presence of dune hummocks and downed woody material at YLR, both of which are almost entirely absent at local beaches due to human use. These features provide habitat for plant species such as the succulent plant dudleya, which grow on downed woody material and dune hummocks at YLR, as well as burrowing owls that use burrows in hummocks and seek shelter beneath downed woody material at YLR.

The relatively natural state of YLR beach and dune vegetation is unique among most pocket beaches in Santa Cruz County and likely represents a glimpse into what many of the pocket beaches in the greater Monterey Bay area looked like prior to significant human disturbance. Open access to the beach would

likely result in the loss of the unique ecological characteristics of the site, likely have a negative impact on sensitive and protected species and certainly reduce its effectiveness as a research area for scientific study. Controlled beach access through the Seymour Center docent led tours, provides an appropriate level of supervised access that enables people to see and learn about the lagoon habitat while limiting impacts to the system. It is important to note, however that avian data collected during the 2020, 2022, 2023, and 2024 docent led beach tours indicate that the tours have a significant negative impact on birds (see NOID 9 (18-1) Special Conditions Implementation Report 4, December 23, 2020 and NOID 12 (20-1) Special Conditions Implementation Report 1, June 25, 2021, Special Conditions Implementation Report 2, December 13, 2021, Special Conditions Implementation Report 3, June 30, 2022, Special Conditions Implementation Report 4, December 21, 2022, Special Conditions Implementation Report 5, June 30, 2023, Special Conditions Implementation Report 6, December 22, 2023, and Special Conditions Implementation Report 7, June 27, 2024). We recommend that the current docent-guided tour program continue while we continue to monitor the biological impacts of the tours.

Although only required to monitor the YLR beach, YLR staff decided to monitor nearby beaches with varying levels of use (Natural Bridges and Sand Plant Beach) during the first 5-year period in order to examine differences in the flora, fauna and use among the three sites. This effort required hundreds of hours of staff and student time, as well as coordination with State Parks staff. As reported in the 2015 YLR Beach Monitoring Report, beginning in the summer of 2015 and moving forward, YLR staff will continue to monitor YLR as required in IM 3.6.3; however, we will no longer monitor at Natural Bridges State Beach or Sand Plant Beach as the previous 5 years of data collection have provided us with adequate information to assess beach resources.

Introduction

Over 50 years ago, the University of California Natural Reserve System (UCNRS) began to assemble, for scientific study, a system of protected sites that would broadly represent California's rich ecological diversity. Today the UC Natural Reserve System is composed of 41 reserves that encompass approximately 47,000 acres of protected natural land available for university-level instruction, research, and public service. The University of California Natural Reserve System supports research and education through its mission of contributing "*to the understanding and wise management of the Earth and its natural systems by supporting university-level teaching, research, and public service at protected natural areas throughout California*." By creating this system of outdoor classrooms and laboratories and making it available specifically for long-term study and education, the NRS supports a variety of disciplines that require fieldwork in wildland ecosystems. UC Santa Cruz administers four UC Reserves: Younger Lagoon Natural Reserve, Año Nuevo Island Reserve, Landels-Hill Big Creek Reserve, and Fort Ord Natural Reserve.

The objective of the beach monitoring program is to document the presence and distribution of flora and fauna within Younger Lagoon Natural Reserve (YLR) and to evaluate changes in distribution and density over time. Additionally, YLR staff decided to monitor nearby beaches with varying levels of use (Natural Bridges and Sand Plant Beach) in order to examine differences in the flora and fauna among the three sites. Importantly, the data collected in this study provides a quantitative assessment of various attributes (species composition, abundance, etc.) but it is realized that the sites vary significantly from one another and that there is no replication. Thus, although these data comparisons are informative there are significant constraints that make meaningful statistical comparisons between the sites impossible. As such, results shouldn't necessarily be used to create strict prescriptions.

This report is a report for activities under NOIDs 2 (10-1), 9 (18-1), and 12 (20-1) during Fiscal Year (FY) 2023-2024 (July 1, 2023 – June 30, 2024) which surveyed YLR. In addition, although we are no longer monitoring Natural Bridges and Sand Plant beaches, we have included all year's results from all sites in this report in order to show the entire effort to date. Data for each monitoring objective have been added to previous year's data; thus, the results for this reporting period have been combined with all previous findings. As a result, this report provides a running summary of our findings starting from the inception of the study and running through the end of FY 2023-2024.

Younger Lagoon Access History

History of Public Access to Younger Lagoon Beach

Prior to 1972, Younger Beach was privately owned and closed to the public. The owners (Donald and Marion Younger) actively patrolled for, and removed, trespassers from their property, including the beach. In 1972, the Younger Family donated approximately 40 acres of their property to the University of California for the study and protection of the marine environment. These lands included Younger Lagoon and Beach (approximately 25 acres), and an adjoining parcel of land (approximately 15 acres) which became the site of the original Long Marine Laboratory (LML). At the time of their donation, Donald and Marion Younger intended that the lagoon, beach and surrounding slopes be protected in perpetuity by the University as a bird sanctuary.

In the years between the donation of the property and the start of LML construction (1976), the University leased the future LML site back to farmers who had been farming the property for the Younger family prior to the donation. During those years, the same no trespassing rules for the beach were enforced as they had been when the property was owned by the Younger family.

Once construction of LML began in 1976, the land was no longer under the watch of the farmers, and public pressure on the beach began to increase. Many Santa Cruz locals remember the next several years at Younger Beach fondly as it became a popular nude beach. The increased public access had a noticeable impact on the flora and fauna of the beach, and was not in accordance with the intention of the original donation by the Younger family. By 1978 discussions had begun between the University and the California Coastal Commission regarding the impact of uncontrolled public access to the beach. In 1981, it was decided that the impacts to Younger Beach were significant and the California Coastal Commission, under coastal permit P-1859, closed uncontrolled access to the beach.

After the approval of coastal permit P-1859, the University began to actively patrol the beach for trespass, educate the public about the closure, and use the site for research and education. After YLR was incorporated into the UCNRS in 1986, users were required to fill out applications, or contact NRS staff, for specific research, education, or outreach efforts. As the LML campus grew, a protective berm and fencing were constructed around the perimeter of the lagoon, and informational 'beach closed' signs were posted on the cliffs above the beach. Over time, trespass decreased and the reduced public access had a noticeable positive impact on the flora and fauna of the beach.

Public access to YLR beach was discussed again during the CLRDP negotiation process (2000-2008). At the time negotiations began, YLR supported a rich composition of plant and animal species despite being surrounded by agricultural and urban development. Reserve staff were concerned that any increase in public access could threaten the already heavily impacted habitat. At the time of CLRDP certification (2010), all parties agreed to the Beach Access Management Plan outlined in NOID 10-1. Under the Beach Access Management Plan, the YLR beach remains closed to unsupervised public access and the reserve is implementing a management and monitoring plan that includes docent-guided tours.

Because of the importance of maintaining a natural and pristine environment (Figure 1) and protecting scientific studies and equipment, uncontrolled access to YLR is not allowed. Uncontrolled use of YLR is likely to have a negative impact on native coastal flora and fauna that inhabit the reserve, hamper research endeavors, and impact the area for future scientific and educational endeavors. Rather than an open public access policy, users are required to fill out applications, or contact NRS staff, for specific research, education, or outreach efforts. In 2010 YLR began hosting docent-guided tours that are offered by the Seymour Marine Discovery Center (Seymour Center).

Beach Access Tours

From 2010 - 2017, docent-led beach tours were offered twice monthly through the Seymour Marine Discovery Center (Seymour Center). Starting in January 2018, tours are offered twice a month during the slower fall and winter months (October-February), and four times a month during the busier spring and summer months (March-September), for a total of 38 tours per year. From 2010-2018, these tours were offered free with admission to the Seymour Center. Starting in 2019, these

tours are now offered for free. In addition, all of the docent led daily tours run by the Seymour Center (prior to the COVID-19 pandemic, approximately 1,500 tours annually) include an informational stop about YLR that includes visual access to the beach.

Due to COVID-19 precautions, the Seymour Center was temporarily closed and the free beach tour program was temporarily suspended in March 2020. The University restarted the free beach tour program in April 2022 (see UC Santa Cruz's Pub. Res. Code section 30611 notification letter to the Commission).

The extent of the beach access area varies depending on tidal conditions and the location of plants, as foot traffic is only permitted seaward of the dune vegetation. Thus, the exact access area may vary slightly from the areas depicted in Figure 2 below and Figure 3.11 of the CLRDP. The trail provides an interpretive experience for visitors that begins with the UC Santa Cruz land acknowledgment at the beginning of every tour, followed by a narrative history of Younger Lagoon Reserve and the UC Natural Reserve System, an overview of the lagoon, a walk through a restored coastal scrub habitat with opportunities to view the rear dune, and ends on the beach. Tours are led by Seymour Center docents trained in the natural and cultural history and ecology of YLR and provide detailed information about flora, fauna, geology, and current research projects. Tour curriculum, which was first presented to the Seymour Center docents during the regular winter docent-training program in 2010, focuses on the unique ecology of the YLR beach.

In addition to the docent-guided beach tours, visual access to the lagoon and back dune is provided to the public via Overlook E along McAllister Way. Overlook E is open to the public from dawn to dusk. Visual access to the Younger Lagoon beach and information about Younger Lagoon Reserve is also provided to all visitors taking the Seymour Center's docent-guided Reserved and Daily Tours via Overlook C. Prior to the COVID-19 pandemic, nearly 25,000 visitors annually took these tours.

In order to maintain public access and engagement during the COVID-19 pandemic, the University created a virtual bilingual beach tour that is available on the Seymour Center and Younger Lagoon Reserve websites. The virtual tour allows visitors from around the world to learn about the unique ecology and programs at the reserve in English and Spanish from the comfort of home.

The virtual tour websites feature a map of the reserve with marked locations where visitors can click to watch videos about the features of each type of habitat.

Virtual Tour Links:
English: https://arcg.is/11m1Ga
Spanish: https://arcg.is/0q0Czv

A UC Santa Cruz undergraduate student created the virtual tour websites and edited the videos as part of an internship project. This student completed all of the work on this project remotely, including learning about the reserve itself. A Younger Lagoon Reserve undergraduate student employee who assisted with the free in-person tours prior to the pandemic acts as the on-camera guide for both tours.

Public Education and Outreach Programming on the Coastal Science Campus

Seymour Marine Discovery Center

The free docent guided beach tours are part of broader public education and outreach programming on the Coastal Science Campus offered through the Seymour Center. Nearly 70,000 people visit the Seymour Center, and nearly 15,000 visitors take docent-guided tours annually. The Seymour Center provides marine science education to hundreds of classes, comprised of thousands of students, teachers, and adult chaperones from across the country. Many of the classes served come from schools classified as Title 1—schools with high numbers of students from low-income families. Scholarships are made available to Title 1 schools, making it possible for students to participate who would not otherwise have the opportunity to experience a marine research center. Teachers often incorporate the Seymour Center into their weeklong marine science field study courses.

Every year, over 120 children ages 7-14, enroll in weeklong summer science sessions known as Ocean Explorers. Students actively learn about and participate in marine research at the Seymour Center and Long Marine Laboratory, where participants work alongside marine mammal researchers and trainers. Participants gain experience with the scientific process, focusing on honing their observation and questioning skills. Ocean Explorers also investigate the coastal environment at field sites around Monterey Bay, including rivers and watersheds, sandy beaches, rocky intertidal areas, and kelp forests by kayak. Young participants generally come from Santa Cruz, Santa Clara, and San Mateo Counties. Full and partial scholarships are extended to low-income participants. After switching to virtual in summer 2020 due to the COVID-19 pandemic, Ocean Explorers was restarted in the summer of 2021.

While part of UC Santa Cruz, the Seymour Center must raise its ~$2 million budget annually (including operating costs, salaries, and benefits) from earned revenue, private donors and grants. Earned revenue—admissions, program fees, facility rentals, and the Ocean Discovery Shop—makes up approximately half of its general operating requirements.

The Seymour Center actively promotes its activities with press releases and calendar listings throughout the region. Every year, traditional print ads are placed in newspaper and magazines. The Seymour Center's activities are also often covered in the local newspaper, the Santa Cruz Sentinel and Lookout Santa Cruz. Public radio ads run throughout the year on the NPR-affiliate, KAZU.

Coupons for discounted admissions are available in various formats. The most highly used program is through the many Bay Area municipal libraries. Called Discover and Go, hundreds of families from across the region utilize these discount coupons. The Seymour Center continued to connect with the public through Facebook, Instagram, and bi-monthly e-blasts.

Figure 1. Burrowing owl on the beach at Younger Lagoon.

Study Areas

Flora, fauna, and human use were monitored at Natural Bridges State Park, Younger Lagoon Reserve, and Little Wilder/Sand Plant Beach from 2010-2015 (Figure 2). These three sites have similar characteristics (all have beach and lagoon habitat), are within close proximity to one another, and experience varying levels of human use. Although site characteristics are similar in many ways, they are also different in many ways, and these differences likely influence species composition. Three of the primary differences among the sites are human use levels, composition of adjacent upland habitat, and the overall size of the beach and wetland areas. Starting in FY 2015-2016 and moving forward, only Younger Lagoon Reserve has been and will continue to be monitored.

Younger Lagoon Reserve

Younger Lagoon Reserve is located in Santa Cruz County, approximately 4.5 miles from the main UC Santa Cruz campus; adjacent to the UC Santa Cruz Long Marine Laboratory. One of the few relatively undisturbed wetlands remaining on the California Central Coast, Younger Lagoon Reserve encompasses a remnant Y-shaped lagoon on the open coast just north of Monterey Bay. For most of the year, the lagoon is cut off from the ocean by a sand barrier. During the winter and spring months, the sand barrier at the mouth of Younger Lagoon breaches briefly connecting the lagoon to the ocean. The lagoon system provides protected habitat for 100 resident and migratory bird species. Approximately 25 species of water and land birds breed at the reserve, while more than 60 migratory bird species overwinter or stop to rest and feed. Opossums, weasels, brush rabbits, ground squirrels, deer mice, coyote, bobcat, woodrat, raccoon, and skunk are known to occupy the lagoon; gray and red foxes as well as mountain lion have also been sighted. Several species or reptiles and amphibians, including the California Red-legged Frog, also are found in the Reserve. Reserve habitats include salt and freshwater marsh, backdune pickleweed areas, steep bluffs with dense coastal scrub, pocket sand beach, grassland, and dense willow thickets.

Sand Plant Beach ("Little Wilder")

Sand Plant Beach is located in Santa Cruz County, approximately 1.5 miles west of YLR adjacent to Wilder Ranch State Park. Sand Plant Beach is approximately 23 acres and includes a pocket beach, dunes, cliffs and lagoon. It is open to the public for recreational use from dawn until dusk, 365 days a year; however, requires a hike to get to it and thus experiences less human use than many of the more accessible beaches in Santa Cruz. The surrounding Wilder Ranch State Park covers approximately 7,000 acres and allows human, bike and equestrian access. Much of the interior lagoon/upland habitat has been modified for agricultural production and/or ranching over the past century. Today most of the vegetation that persists inland of the lagoon is dominated by freshwater emergent vegetation and willow thickets. Major wetland restoration projects have increased native flora and fauna in the area (Friends of Santa Cruz State Parks, 2010).

Natural Bridges Lagoon

Natural Bridges Lagoon is located in Santa Cruz County, approximately 0.5 miles east of YLR on the urban edge of the city of Santa Cruz CA in Natural Bridges State Park. Natural Bridges Lagoon, beach, and State Park encompasses approximately 63 acres and includes a wide pocket beach, lagoon, cliffs, and diverse upland habitat (scrub, grass, iceplant, willow thicket, live oak, eucalyptus, and cypress). The park is world-renowned for its yearly migration of monarch butterflies and famous natural bridge. Natural Bridges State Park allows human access as well as dogs that are on leash and remain on paved

roads and in parking lots (Friends of Santa Cruz State Parks, 2010). The beach is a popular destination at all times of the year; however, it is especially popular in the spring, summer, and fall months.

Figure 2. Study Areas.

Methods

User Data

User data from tours conducted by the Seymour Center, as well as research and education use of YLR, were recorded and maintained by Seymour Center and YLR Staff. User data from educational programs and fee collection are recorded and maintained by California State Parks staff for Natural Bridges State Parks. No user data was available for Sand Plant Beach.

Human Beach Use

We used remote cameras to quantify human use quarterly througout the study peroiod. Cameras were placed along the eastern edge of Sand Plant Beach and Natural Bridges Beach from FY 2010-2011 – FY 2014-2015 and at the western edge of Younger Lagoon from FY 2010-2011 – present with each separate quarterly sampling events each consisting of two days. Cameras were set to automatically take photos at 15 minute intervals. Number of people were quantified for 15 minute intervals during the day (camera times varied across sampling periods due to day length and postion; however, were standardized within each sampling period). The total survey area varied between sites and among individual sampling efforts due the placement of the camera and available habitat for human users at the time of the survey (i.e. often less beach area surveyed at Sand Plant Beach compared to Younger Lagoon and Natural Bridges). In order to control for area, specific regions of photos were chosen and number of individuals within each region were counted; thus, the number of people counted per unit area and time was standardized. We used the largest survey area during each sampling period to standardize use within each specific region of the beach during each sampling effort. Thus, if a particular site had more or less habitat monitored, the number of individuals was standardized across sites making comparisons comparable.

Photo Documentation of Younger Lagoon Natural Reserve

Photo point locations were established at four locations within YLR (Figure 3). These locations were chosen to ensure coverage of all major areas of the beach. Photos were taken once during the reporting period. At each photo point we collected photo point number, date, name of photographer, bearing, and camera and lens size.

Tidewater Goby Surveys

Tidewater goby surveys were conducted quarterly throughout the study period. Surveys were conducted using a 4.5 ft x 9 ft beach seine with 1/8 inch mesh. The objectives of the surveys were to document tidewater goby presence and evidence of breeding activity (determined by the presence of multiple size/age classes). All fish were identified to species and counted. When individuals exceeded ~50 per seine haul, counts were estimated. Sampling was conducted with the goal of surveying the various habitats within each site (e.g. sand, sedge, willow, pickleweed,

deep, shallow, etc.); thus, different numbers of seine hauls were conducted at each site. Species richness was compared among sites.

Figure 3. Locations of monitoring points, plots, and regions for YLR beach. Monitoring areas varied between sampling efforts depending upon the high water mark, vegetation patterns, and water levels.

Species Composition and Coverage of Beach Dune Vegetation

Dune vegetation from the lowest (nearest to the mean high tide line) occurring terrestrial plant to 10 meters inland into the strand vegetation was surveyed quarterly throughout the study period. The exact location and extent of the area surveyed each time varied depending upon the location of the "lowest" plant detected during each sampling effort. At each location we established a 50-m east-west transect across the dune vegetation and measured the distance from the estimated mean high tide line to the "lowest" plant on the beach. Herbaceous species composition was measured by visual estimation of absolute cover for each species in ten 0.25 m^2 quadrats along the transect. Quadrats were placed every 5 m on alternating sides of the transect starting at a randomly selected point between 1 and 5 meters (a total of 10 quadrats per transect). A clear plastic card with squares representing 1, 5, and 10% of the sampling frame was used to help guide visual cover estimations. Species cover (native and exotic), bare ground, and litter were estimated at 5% intervals. Litter was specifically defined as residue from previous year's growth while any senescent material that was recognizable as growth from earlier in the current growing season was counted as cover for that species. After all cover estimates had been made, we conducted surveys within 2 m of either side of the transect (a 4 × 50 m belt). In the belt transects, individual plants were recorded as either seedlings or greater than 1 year old. Presence of flowers and seeds was also noted.

Non-avian Vertebrate Monitoring

Tracks

Vertebrate tracks were measured using raked sand plots at each site quarterly throughout the study period. Tracking stations were placed throughout the beach area in constriction zones where vegetation was absent. The objective of these surveys was simply to detect what species use the beach habitat. As such, size of plot varied from approximately depending upon the amount of available open sandy area at each location. Track stations were raked each evening and checked for tracks in the morning. Stations remained open for two days during each monitoring bout. Tracks were identified to species when possible. Species composition was summarized; however, abundance was not quantified due to the fact that most often tracks cannot be used to identify individual animals (e.g. a single individual could walk across the plot multiple times).

Small Mammals

Sherman live traps were placed for two nights every quarter of the study period - a total of 30 traps were placed used (60 trap nights per sampling bout). Traps were set at dusk and collected at dawn. Each trap was baited with rolled oats and piece of synthetic bedding material was placed in each trap to ensure animals did not get too cold. Individuals were identified to species, marked with a unique ear tag, and released at the site of capture.

Invertebrate Monitoring

Terrestrial invertebrates on beach habitat were monitored by placing 12 oz plastic containers (pit fall traps) at each tracking station (one at each corner of the plot) during tracking efforts. Traps were buried to the lip of the container and checked each morning and all individuals were collected, identified, and counted.

Avian Monitoring

We conducted ocular surveys of birds on the beach, lagoon, and cliff habitats quarterly throughout the study period. Survey locations were selected along one edge of the beach on the cliff. At Sand Plant Beach the entire beach area, fore portion of the lagoon, and western cliff were surveyed from the eastern edge of the lagoon (FY 2010-2011 – FY 2014-2015). At YLR the entire beach area, fore portion of the lagoon, and western cliff were surveyed from the eastern edge of the lagoon and the top and western face of the rock stack that is located at the beach/ocean edge was surveyed (FY 2010-2011 – present). At Natural Bridges surveys were conducted from the eastern edge of the beach on the cliff adjacent to De Anza Mobile Home Park or from the beach to the west; fore lagoon and approximately the western ¼ of the beach area (including beach/ocean interface) was included in the survey area (FY 2010-2011 – FY 2014-2015). Survey areas were chosen with the goal of surveying approximately the same area and types of habitat. Counts were recorded quarterly throughout the study. Surveys were conducted in the dawn or dusk hours within approximately 2 hours of sunrise or sunset and of one another. Data from the two days during each sampling effort were combined and individuals were identified and counted.

Results

User Data

Younger Lagoon Reserve

A wide variety of public and non-profit research and educational groups used Younger Lagoon in FY23-24 (Table 1). The greatest educational user group for YLR was undergraduate education, a breakdown of all user groups is included in Table 2. The greatest user group was “other” which consists primarily of members of the public visiting the overlook shelter. Those users were provided an overlook of the beach and opportunities to read interpretive material presented on signs about the reserve; however, did not access the beach. The free beach access tours are part of a broad offering of public outreach and education programming on the Coastal Science Campus managed by the Seymour Center, including K-12 school visits to the Seymour Center, the Ocean Explorers Summer Camp, Bay Area Libraries Discover and Go Program, as well as print, web, social media, and radio campaigns.

Despite ongoing staff efforts towards public outreach and education, some unauthorized uses of Younger Lagoon Reserve, including trespass, theft, and vandalism occurred in FY 2023-2024. Thus far, no significant damage to ecologically sensitive habitat areas, research sites, research equipment, or facilities has occurred. Reserve staff will continue their public outreach and

education efforts, and continue to partner with UCSC campus police to ensure the security of the reserve and protect sensitive resources and ongoing research.

Table 1. Younger Lagoon user affiliations.

University of California Campus	**Non-governmental Organizations**
University of California, Berkeley	Audubon Society
University of California, Davis	Black Oystercatcher Monitoring Project
University of California, Irvine	Coastal Watershed Council
University of California, Merced	Kids in Nature
University of California, San Diego	Santa Cruz Bird Club
University of California, Santa Cruz	Seymour Marine Discovery Center
	Santa Cruz Museum of Natural History
California State Universities	
California State University, San Jose	**K-12 Education**
California State University, Los Angeles	Half Moon Bay High School
	Harbor High School
California Community College	Pacific Collegiate School
Cabrillo Community College	San Lorenzo Valley Charter School
Other Colleges and Universities	
University of Florida	

Table 2. Younger Lagoon Total Use.

RESERVE USE DATA
Fiscal year: 2023-2024

Campus: University of California, Santa Cruz
Reserve: Younger Lagoon Reserve

	UC Home		UC Other		CSU System		CA Comm College		Other CA College		Out of State College		Int. University		K-12 School		NGO/Non-Profit		Government		Business Entity		Other		Total	
	Users	UDs	Users	UDs	Users	UDs	Users	UDs	Users	UDs	Users	UDs	Users	UDs	Users	UDs	Users	UDs	Users	UDs	Users	UDs	Users	UDs	Users	UDs
Research																										
Faculty	1	1	0	0	2	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	4
Research Assistant (non-student/faculty/postdoc)	1	1	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2
Graduate Student	1	1	3	10	2	3	0	0	0	0	1	2	0	0	0	0	0	0	0	0	0	0	0	0	7	16
Undergraduate Student	0	0	4	4	3	3	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8	8
Professional	3	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	3
Other	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	2	2
Volunteer	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	182	0	0	0	0	0	0	1	182
SUBTOTAL	6	6	7	14	8	10	1	1	0	0	1	2	0	0	0	0	1	182	0	0	0	0	2	2	26	217

	UC Home		UC Other		CSU System		CA Comm College		Other CA College		Out of State College		Int. University		K-12 School		NGO/Non-Profit		Government		Business Entity		Other		Total	
	Users	UDs	Users	UDs	Users	UDs	Users	UDs	Users	UDs	Users	UDs	Users	UDs	Users	UDs	Users	UDs	Users	UDs	Users	UDs	Users	UDs	Users	UDs
Class																										
Faculty	16	140	0	0	1	1	2	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	19	144
Graduate Student	29	33	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	29	33
Undergraduate Student	708	8639	0	0	23	23	80	80	0	0	20	480	0	0	0	0	0	0	0	0	0	0	0	0	831	9222
Professional	1	396	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	396
Volunteer	5	120	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	120
Reserve Staff	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
SUBTOTAL	760	9329	0	0	24	24	82	83	0	0	20	480	0	0	0	0	0	0	0	0	0	0	0	0	886	9916

	UC Home		UC Other		CSU System		CA Comm College		Other CA College		Out of State College		Int. University		K-12 School		NGO/Non-Profit		Government		Business Entity		Other		Total	
	Users	UDs	Users	UDs	Users	UDs	Users	UDs	Users	UDs	Users	UDs	Users	UDs	Users	UDs	Users	UDs	Users	UDs	Users	UDs	Users	UDs	Users	UDs

	UC Home		UC Other		CSU System		CA Comm College		Other CA College		Out of State College		Int. University		K-12 School		NGO/Non-Profit		Government		Business Entity		Other		Total	
	Users	UDs	Users	UDs	Users	UDs	Users	UDs	Users	UDs	Users	UDs	Users	UDs	Users	UDs	Users	UDs	Users	UDs	Users	UDs	Users	UDs	Users	UDs
Public Use																										
Faculty	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2
Undergraduate Student	79	79	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	79	79
K-12 Instructor	2	2	0	0	0	0	0	0	0	0	0	0	0	0	9	12	2	3	0	0	0	0	0	0	13	17
K-12 Student	0	0	0	0	0	0	0	0	0	0	0	0	0	0	268	268	0	0	0	0	0	0	0	0	268	268
Professional	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	8	0	0	0	0	3	3	4	11
Other	44	44	0	0	0	0	0	0	0	0	0	0	0	0	0	0	31	1831	0	0	0	0	714	4404	789	6279
Docent	38	38	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	38	38
Volunteer	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	6	67	0	0	0	0	0	0	7	68
Reserve Staff	1	38	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	2	39
SUBTOTAL	166	203	1	1	0	0	0	0	0	0	0	0	0	0	277	280	41	1910	0	0	0	0	717	4407	1202	6801

Total	932	9538	8	15	32	34	83	84	0	0	21	482	0	0	277	280	42	2092	0	0	0	0	719	4409	2114	16934

Sand Plant Beach (Little Wilder)

Sand Plant Beach is located adjacent to Wilder State Park and is frequented by Wilder State Park visitors along a coastal bluff trail. Because of the size of Wilder Ranch State Park (over 7,000 acres, with over 35 miles of trails) and its multiple points of access, it is unknown exactly how many people visit Sand Plant Beach each year. However, even though it requires a hike it is one of the more popular beaches along this section of Wilder Ranch as there is relatively easy access along the coastal bluff trail. We surveyed Sand Plant Beach from FY10-11 – FY14-15.

Natural Bridges Lagoon

We did not obtain user data for Natural Reserves during the survey period; however, more than 925,000 people are estimated to have visited Natural Bridges State Park in 2005 (Santa Cruz State Parks 2010). The proportion of those visitors that use the beach and lagoon habitat is unknown. It is likely that the number of visitors remains in this range from year to year. We surveyed Natural Bridges Lagoon from FY10-11 – FY14-15.

Human Use During Survey Efforts

Although we are no longer monitoring Natural Bridges and Sand Plant beaches, we continue include results in order to have standalone reports that include all data going forward. Number of users at YLR beach during the survey efforts varied among beach as well as between sampling dates. However, the pattern of total use and the number of people per photo (15 minute interval standardized for area surveyed) was consistent across sampling periods (Table 3). Examples of photos captured during a typical monitoring session in 2010 are included as Figure 4.

Table 3. Number of people observed in photo human use monitoring.

Site	Month	[1]Total # of people	[1]Ave # of People / 15 minute
Natural Bridges	May, 2010	313	3.13
Sand Plant	May, 2010	92	1.21
Younger Lagoon	May, 2010	2	0.28
Natural Bridges	August, 2010	224	2.69
Sand Plant	August, 2010	15	0.17
Younger Lagoon	August, 2010	0	0
Natural Bridges	November, 2010	207	2.07
Sand Plant	November, 2010	7	0.17
Younger Lagoon	November, 2010	1	0.02
Natural Bridges	February, 2011	185	2.64
Sand Plant	February, 2011	10	0.25
Younger Lagoon	February, 2011	2	0.06

Site	Month	[1]Total # of people	[1]Ave # of People / 15 minute
Natural Bridges	May, 2011	236	2.8
Sand Plant	May, 2011	13	0.38
Younger Lagoon	May, 2011	5	0.18
Natural Bridges	July, 2011	795	2.44
Sand Plant	July, 2011	7	0.25
Younger Lagoon	July, 2011	0	0
Natural Bridges	December, 2011	49	0.63
Sand Plant	December, 2011	39	1.16
Younger Lagoon	December, 2011	0	0
Natural Bridges	April, 2012	442	6.93
Sand Plant	April, 2012	120	2.05
Younger Lagoon	April, 2012	0	0
Natural Bridges	May, 2012	624	2.67
Sand Plant	May, 2012	14	0.19
Younger Lagoon	May, 2012	0	0
Natural Bridges	October, 2012	210	4.84
Sand Plant	October, 2012	83	1.06
Younger Lagoon	October, 2012	3	0.04
Natural Bridges	January, 2013	100	4.90
Sand Plant	January, 2013	24	0.81
Younger Lagoon	January, 2013	9	0.11
Natural Bridges	May, 2013	615	19.81
Sand Plant	May, 2013	21	0.52
Younger Lagoon	May, 2013	0	0
Natural Bridges	July, 2013	560	25.42
Sand Plant	July, 2013	29	0.96
Younger Lagoon	July, 2013	5	0.06
Natural Bridges	November, 2013	3.44	13.04
Sand Plant	November, 2013	6	0.19
Younger Lagoon	November, 2013	12	0.15
Natural Bridges	February, 2014	71	6.37
Sand Plant	February, 2014	6	0.20
Younger Lagoon	February, 2014	1	0.01

Site	Month	[1]Total # of people	[1]Ave # of People / 15 minute
Natural Bridges	June, 2014	1723	21.01
Sand Plant	June, 2014	239	2.92
Younger Lagoon	June, 2014	2	0.02
Natural Bridges	August, 2014	852	23.68
Sand Plant	August, 2014	227	2.52
Younger Lagoon	August, 2014	2	0.02
Natural Bridges	November, 2014	2131	21.69
Sand Plant	November, 2014	146	1.78
Younger Lagoon	November, 2014	2	0.02
Natural Bridges	January, 2015	1889	23.04
Sand Plant	January, 2015	225	2.75
Younger Lagoon	January, 2015	11	0.13
Natural Bridges	April, 2015	699	7.13
Sand Plant	April, 2015	-	-
Younger Lagoon	April, 2015	0	0
Younger Lagoon	July, 2015	6	0.02
Younger Lagoon	October, 2015	0	0
Younger Lagoon	February, 2016	0	0
Younger Lagoon	May, 2016	1	0.02
Younger Lagoon	July, 2016	0	0
Younger Lagoon	November, 2016	0	0
Younger Lagoon	February, 2017	0	0
Younger Lagoon	April, 2017	0	0
Younger Lagoon	August, 2017	19	0.16
Younger Lagoon	October, 2017	6	0.05
Younger Lagoon	February, 2018	0	0
Younger Lagoon	May, 2018	27	0.22
Younger Lagoon	July, 2018	11	0.09
Younger Lagoon	November, 2018	14	0.15
Younger Lagoon	February, 2019	62	0.65
Younger Lagoon	May, 2019	0	0
Younger Lagoon	July, 2019	0	0
Younger Lagoon	November, 2019	0	0
Younger Lagoon	February, 2020	0	0
Younger Lagoon	May, 2020	0	0

Site	Month	[1]Total # of people	[1]Ave # of People / 15 minute
Younger Lagoon	August, 2020	1	.02
Younger Lagoon	November, 2020	-	-
Younger Lagoon	February, 2021	0	0
Younger Lagoon	May, 2021	0	0
Younger Lagoon	August, 2021	0	0
Younger Lagoon	November, 2021	0	0
Younger Lagoon	March, 2022	0	0
Younger Lagoon	May, 2022	0	0
Younger Lagoon	August, 2022	0	0
Younger Lagoon	November, 2022	0	0
Younger Lagoon	February 2023	0	0
Younger Lagoon	May 2023	4	.03
Younger Lagoon	August, 2023	0	0
Younger Lagoon	November, 2023	57	.64
Younger Lagoon	February, 2024	0	0
Younger Lagoon	May, 2024	0	0

[1]Standardized by area surveyed.

Figure 4. Photos captured by remote camera during the Spring 2010 monitoring effort. Top to bottom: Sand Plant Beach, Natural Bridges, and Younger Lagoon.

Photo Documentation of YLR

Photos were taken one time during each reporting period. Photos for FY2023-2024 are included as Appendix 1.

Tidewater Goby Surveys

Although we are no longer monitoring Natural Bridges and Sand Plant beaches, we continue include results in order to have standalone reports that include all data going forward. Evidence of breeding (multiple size classes) continued to be observed at YLR during the reporting period (Table 4).

Table 4. Fish species encountered during sampling efforts.

	Tidewater Goby	Stickleback	Sculpin	Mosquito Fish	Halibut	CRLF [1]	Bluegill
April 9, 2010							
Little Wilder	X	X					
Younger Lagoon	X	X					
Natural Bridges	X	X	X				
August 13, 2010							
Little Wilder	X	X					
Younger Lagoon	X	X					
Natural Bridges	X	X	X	X			
November 18, 2010							
Little Wilder	X	X					
Younger Lagoon	X						
Natural Bridges	X	X	X	X			
February 23, 2011							
Little Wilder	X	X					
Younger Lagoon	X						
Natural Bridges	X	X	X	X			
May 12, 2011							
Little Wilder	X	X					
Younger Lagoon	X	X	X		X		
Natural Bridges	X	X	X				
August 8, 2011							
Little Wilder	X	X					
Younger Lagoon	X	X					
Natural Bridges	X	X					
December 12, 2011							
Little Wilder	X	X					
Younger Lagoon	X						
Natural Bridges	X	X					
March 8, 2012							
Little Wilder	X	X					
Younger Lagoon	X						
Natural Bridges	X	X					
May 15, 2012							
Little Wilder	X	X					
Younger Lagoon	X	X					
Natural Bridges	X	X	X				
August 29, 2012							
Little Wilder	X	X				X	

Younger Lagoon	X	X			X
Natural Bridges	X	X			
October 23, 2012					
Little Wilder	X	X			
Younger Lagoon	X	X			
Natural Bridges	X	X			
February 2, 2013					
Little Wilder	X	X			
Younger Lagoon	X	X			
Natural Bridges	X	X			
May 6, 2013					
Little Wilder	X	X			X
Younger Lagoon	X	X			X
Natural Bridges	X	X			
July 16, 2013					
Little Wilder	X	X			X
Younger Lagoon	X	X			
Natural Bridges	X	X	X		
November 14, 2013					
Little Wilder	X	X			
Younger Lagoon	X	X			
Natural Bridges					
February 21, 2014					
Little Wilder	X	X			
Younger Lagoon	X	X			
Natural Bridges	X				
May 2, 2014					
Little Wilder	X	X			
Younger Lagoon	X	X			
Natural Bridges	X				
August 11, 2014					
Little Wilder	X	X			
Younger Lagoon	X	X			
Natural Bridges	X	X			
November 25, 2014					
Little Wilder	X	X			
Younger Lagoon	X	X			
Natural Bridges	X	X			
January 26, 2015					
Little Wilder	X	X			
Younger Lagoon	X	X			

Natural Bridges	X			
April 13, 2015				
Little Wilder	X	X		
Younger Lagoon	X	X		
Natural Bridges	X	X		X
July 8, 2015				
Younger Lagoon	X	X		
November 4, 2015				
Younger Lagoon	X	X		
February 9, 2016				
Younger Lagoon	X	X		
May 13, 2016				
Younger Lagoon	X	X		
July 20, 2016				
Younger Lagoon	X	X		
November 17, 2016				
Younger Lagoon	X	X		
March 1, 2017				
Younger Lagoon				
May 3, 2017				
Younger Lagoon	X	X		
August 9, 2017				
Younger Lagoon	X	X		
November 9, 2017				
Younger Lagoon	X	X		
February 9, 2018				
Younger Lagoon	X	X		
February 9, 2018				
Younger Lagoon	X	X		
May 2, 2018				
Younger Lagoon	X	X		
July 16, 2018				
Younger Lagoon	X	X		
November 18, 2018				
Younger Lagoon	X			

February 21, 2019 Younger Lagoon		
May 14, 2019 Younger Lagoon	X	X
August 15, 2019 Younger Lagoon	X	X
October 31, 2019 Younger Lagoon	X	X
February 13, 2020 Younger Lagoon	X	
May 21, 2020 Younger Lagoon	X	X
August 19, 2020 Younger Lagoon	X	X
November 17, 2020 Younger Lagoon	X	X
February 24, 2021 Younger Lagoon	X	X
Spring, 2021 Younger Lagoon	X	X
August 21, 2021 Younger Lagoon	X	X
November 17, 2021 Younger Lagoon	X	X
March 8, 2022 Younger Lagoon	X	
May 4, 2022 Younger Lagoon	X	X
August 4, 2022 Younger Lagoon	X	X
November 3, 2022 Younger Lagoon	X	X
February 9, 2023 Younger Lagoon	X	

May 4, 2023							
Younger Lagoon	X	X					
August 16, 2023							
Younger Lagoon	X	X					
November 9, 2023							
Younger Lagoon	X	X					
February 14, 2024							
Younger Lagoon	X	X					
May 1, 2024							
Younger Lagoon	X	X					
No. of sites	3	3	2	2	1	2	1

[1]CRLF = California Red-legged Frog (*Rana draytonii*). Tadpoles have been observed at Little Wilder. Tadpoles, juveniles, young of year, and adults have been observed at YLR and Little Wilder.

Species Composition and Coverage of Beach Dune Vegetation

Although we are no longer monitoring Natural Bridges and Sand Plant beaches, we continue include results in order to have standalone reports that include all data going forward. Evidence of reproduction (flowers, seeds, and seedlings) of native and non-native vegetation has been detected at all three sites. Distance from mean high tide to the lowest plant on the beach was consistently greatest at Natural Bridges and lowest at Sand Plant Beach and Younger Lagoon (Table 5). Plant cover was generally higher at Sand Plant and Younger Lagoon (as exhibited by proportion of bare ground) but varied across sampling efforts (Figure 5).

Native plant species richness was consistently greatest at Younger Lagoon; however, it varied across sampling periods (Figure 6). Mean proportion of non-native species also varied across sampling periods. Mean proportion of non-native species was consistently greatest at Natural Bridges (55%) and least at either Sand Plant Beach (31%) or Younger Lagoon (28%) (Table 6).

Table 5. Distance (m) from mean high tide to the lowest plant on the beach.

Site	Spring, 10	Summer, 10	Fall, 10	Winter, 11	Spring, 11	Summer, 11	Fall, 11	Winter, 12	Spring, 12
Younger Lagoon	56	51	20	42	55	49	26	30	28
Sand Plant Beach	33	34	56	56	40	51	29	31	38
Natural Bridges	128	130	141	146	146	138	155	160	123

Site	Summer, 12	Fall, 12	Winter, 13	Spring, 13	Summer, 13	Fall, 13	Winter, 14	Spring, 14
Younger Lagoon	47	20	30	36	37.3	32.1	26.4	36.5
Sand Plant Beach	35	38	31	41	48.1	49.9	45.6	24.2
Natural Bridges	91	75	100	72	88.9	107.3	87.4	83.2

Site	Summer, 14	Fall, 14	Winter, 15	Spring, 15	Summer, 15	Fall, 15	Winter, 16	Spring, 16
Younger Lagoon	21.4	10	26.4	19.5	19.3	20.5	31.4	42.8
Sand Plant Beach	27.5	31	24.5	29.2				
Natural Bridges	74.3	89.4	71	75.8				

Site	Summer, 16	Fall, 16	Winter, 17	Spring, 17	Summer, 17	Fall, 17	Winter, 18	Spring, 18
Younger Lagoon	36.6	46.3	19.5	37.3	22.3	39.3	32	29

Site	Summer, 18	Fall, 18	Winter, 19	Spring, 19	Summer, 19	Fall, 19	Winter, 20	Spring, 20
Younger Lagoon	28	22	23	24.7	38	26	29	27

Site	Summer, 20	Fall, 20	Winter, 21	Spring, 21	Summer, 21	Fall, 21	Winter, 22	Spring, 22
Younger Lagoon	28.3	23	24	25	23.5	22.5	21.75	28

Site	Summer, 22	Fall, 22	Winter, 23	Spring, 23	Summer, 23	Fall, 23	Winter, 24	Spring, 24
Younger Lagoon	24.5	22	26.69	27.7	38	41	35	32

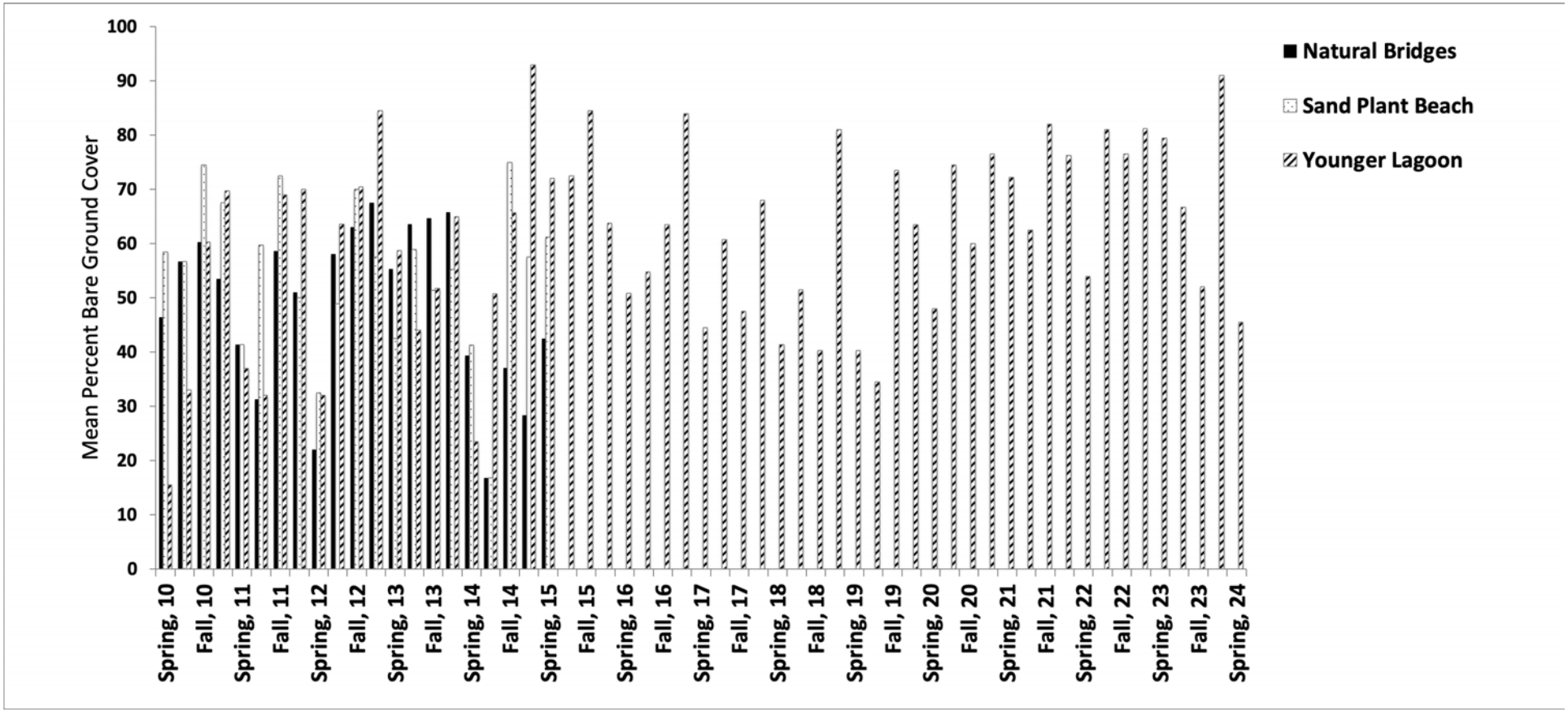

Figure 5. Mean percent bare ground encountered at each site.

Table 6. Number and proportion of native and non-native plant species encountered during surveys. Mean is calculated across all samples.

Site	Spring, 10	Summer, 10	Fall, 10	Winter, 11	Spring, 11	Summer, 11	Fall, 11	Winter, 12	Spring, 12
Natural Bridges									
Native	7 (41%)	8 (44%)	9 (60%)	8 (44%)	9 (43%)	6 (67%)	8 (62%)	9 (47%)	11 (48%)
Non-native	10 (59%)	10 (56%)	5 (40%)	10 (66%)	12 (57%)	9 (33%)	5 (38%)	10 (53%)	12 (52%)
Total	17	18	14	18	21	15	13	19	23
Younger Lagoon									
Native	11 (85%)	11 (85%)	11 (85%)	11 (73%)	12 (80%)	13 (81%)	9 (82%)	6 (50%)	6 (43%)
Non-native	2 (15%)	2 (15%)	2 (15%)	4 (27%)	3 (20%)	3 (19%)	2 (18%)	6 (50%)	8 (57%)
Total	13	13	13	15	15	16	11	12	14
Sand Plant Beach									
Native	7 (88%)	7 (63%)	7 (70%)	8 (80%)	7 (88%)	7 (88%)	9 (82%)	3 (33%)	4 (40%)
Non-native	1 (12%)	2 (37%)	3 (30%)	2 (20%)	1 (12%)	1 (12%)	2 (18%)	6 (67%)	6 (60%)
Total	8	9	10	10	8	8	11	9	10

Site	Summer, 12	Fall, 12	Winter, 13	Spring, 13	Summer, 13	Fall, 13	Winter, 14	Spring, 14
Natural Bridges								
Native	5 (35%)	10 (59%)	7 (88%)	9 (56%)	7 (37%)	6 (35%)	6 (43%)	10 (50%)
Non-native	9 (65%)	7 (41%)	8 (12%)	6 (44%)	12 (63%)	11 (65%)	8 (57%)	10 (50%)
Total	14	17	15	16	19	17	14	20
Younger Lagoon								
Native	12 (67%)	7 (88%)	9 (69%)	12 (75%)	13 (72%)	14 (74%)	10 (83%)	12 (67%)
Non-native	6 (33%)	1 (12%)	4 (31%)	4 (25%)	5 (28%)	5 (26%)	2 (17%)	6 (33%)
Total	18	8	13	16	18	19	12	18
Sand Plant Beach								
Native	2 (40%)	3 (50%)	4 (100%)	4 (67%)	6 (100%)	6 (100%)	5 (100%)	5 (83%)
Non-native	3 (60%)	3 (50%)	0 (0%)	2 (33%)	0 (0%)	0 (0%)	0 (0%)	1 (17%)

Total	5	6	4	6	6	6	5	6

Site	Summer, 14	Fall, 14	Winter, 15	Spring, 15	Summer, 15	Fall, 15	Winter, 16	Spring 16
Natural Bridges								
Native	5 (42%)	5 (45%)	4 (33%)	5 (31%)				
Non-native	7 (58%)	6 (55%)	8 (67%)	11 (69%)				
Total	12	11	12	16				
Younger Lagoon								
Native	9 (69%)	5 (62%	10 (67%)	10 (67%)	11 (73%)	2 (67%)	5 (100%)	10 (83%)
Non-native	4 (31%)	3 (38%)	5 (33%)	5 (33%)	4 (27%)	1 (33%)	0 (0%)	2 (17%)
Total	13	8	15	15	15	3	5	12
Sand Plant Beach								
Native	4 (50%)	4 (40%)	5 (50%)	4 (33%)				
Non-native	4 (50%)	6 (60%)	5 (50%	8 (67%)				
Total	8	10	10	12				

Site	Summer, 16	Fall, 16	Winter, 17	Spring, 17	Summer, 17	Fall, 17	Winter, 18	Spring, 18
Younger Lagoon								
Native	10 (83%)	8 (57%)	3 (60%)	13 (68%)	12 (70%)	13 (76%)	12 (70%)	9 (82%)
Non-native	2 (17%)	6 (43%)	2 (40%)	6 (32%)	5 (30%)	4 (24%)	5 (30%)	2 (18%)
Total	12	14	5	19	17	17	17	11

Site	Summer, 18	Fall, 18	Winter, 19	Spring, 19	Summer, 19	Fall, 19	Winter, 20	Spring, 20
Younger Lagoon								
Native	9 (82%)	8 (80%)	8 (80%)	9 (67%)	8 (67%)	8 (67%)	8 (57%)	9 (53%)
Non-native	2 (18%)	2 (20%)	2 (20%)	3 (33%)	4 (33%)	4 (33%)	6 (43%)	8 (47%)
Total	11	10	10	12	12	14	14	17

Site	Summer, 20	Fall, 20	Winter, 21	Spring, 21	Summer, 21	Fall, 21	Winter, 22	Spring, 22
Younger Lagoon								
Native	6 (67%)	8 (73%)	7 (58%)	7 (58%)	6 (67%)	7 (78%)	6 (75%)	6 (67%)

Non-native	3 (33%)	3 (27%)	5 (42%)	5 (42%)	3 (33%)	2 (22%)	2 (25%)	3 (33%)
Total	9	11	12	12	9	9	8	9

Site	Summer, 22	Fall, 22	Winter, 23	Spring, 23	Summer, 23	Fall, 23	Winter, 24	Spring, 24
Younger Lagoon								
Native	5 (100%)	4 (80%)	4 (100%)	5 (62%)	7 (87.5%)	8 (89%)	7 (70%)	9 (64%)
Non-native	0 (0%)	1 (20%)	0 (0%)	3 (38%)	1 (12.5%)	1 (11%)	3 (30%)	5 (36%)
Total	5	5	4	8	8	9	10	14

Site	Proportion of native and non-native species across all sample periods
Natural Bridges	
Native	**45%**
Non-native	**55%**
Total	
Younger Lagoon	
Native	**71%**
Non-native	**29%**
Total	
Sand Plant Beach	
Native	**69%**
Non-native	**31%**
Total	

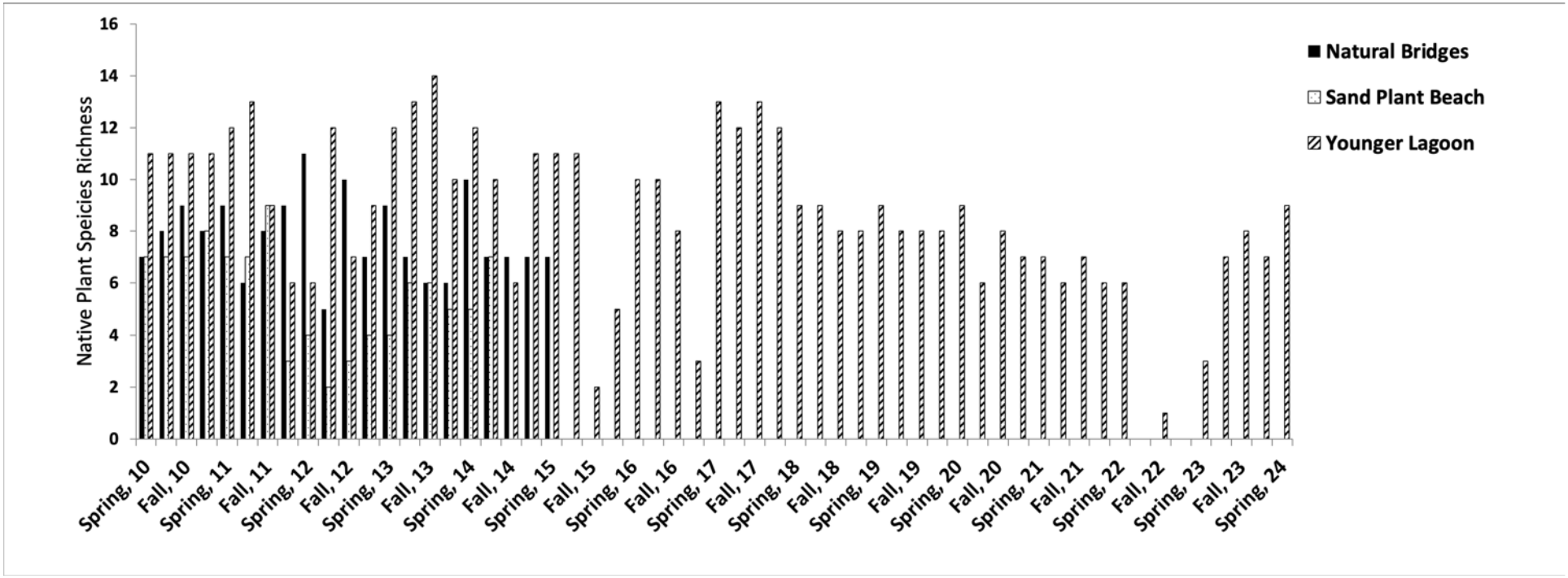

Figure 6. Number of native plant species encountered at each site.

Track Plate Monitoring

Although we are no longer monitoring Natural Bridges and Sand Plant beaches, we continue include results in order to have standalone reports that include all data going forward. Native species richness of mammals detected in raked sand plots was equal across all three sites (n = 8). Ground squirrel were not detected at Natural Bridges and opossum have not been detected in our track surveys at Sand Plant Beach or Younger Lagoon Reserve (Table 7). It is likely that ground squirrels occur at Natural Bridges and opossum are likely using upland habitat at Sand Plant Beach and Younger Lagoon Reserve; however, they were not detected in our survey efforts. Dogs and bicycles were detected at Natural Bridges and Sand Plant Beach and vehicles were detected at Natural Bridges (Table 7). Frequency of detection and species richness for each species is summarized in Table 8.

Table 7. Summary of track plate sampling effort at each site.

	Rodent[1]	Raccoon	Cottontail	Bobcat	Skunk	Squirrel	Deer	Opossum	Coyote	Bicycle	Vehicle	Dog	Human
May 1-2, 2010													
Little Wilder	X			X	X	X			X	X			X
Younger Lagoon	X	X		X	X								X
Natural Bridges	X	X		X	X				X	X	X	X	X
August 11-12, 2010													
Little Wilder		X		X	X							X	X
Younger Lagoon	X	X	X	X		X							
Natural Bridges	X	X	X									X	X
November 17-18, 2010													
Little Wilder	X		X	X					X				X
Younger Lagoon	X	X											X
Natural Bridges	X	X		X							X	X	X
February 8 -9, 2011													
Little Wilder	X			X	X				X	X			X
Younger Lagoon	X	X			X				X				
Natural Bridges		X		X					X		X		X
May 3 - 4, 2011													
Little Wilder	X		X	X									
Younger Lagoon		X	X	X	X				X				
Natural Bridges		X			X				X			X	X
July 22 - 23, 2011													
Little Wilder	X	X			X				X				X
Younger Lagoon	X	X	X	X	X								
Natural Bridges	X	X	X		X							X	X
March 8 - 9, 2012													
Little Wilder	X								X				X
Younger Lagoon				X					X				
Natural Bridges							X				X	X	X
May 15 - 16, 2012													
Little Wilder	X		X	X									X
Younger Lagoon	X	X		X					X				
Natural Bridges	X			X				X				X	X

August 16 - 17, 2012													
Little Wilder	X	X	X	X	X		X		X				X
Younger Lagoon	X	X		X		X	X						
Natural Bridges	X	X	X	X	X		X				X	X	X
October 22 - 23, 2012													
Little Wilder	X						X		X				X
Younger Lagoon		X		X					X				X
Natural Bridges			X		X		X				X		X
January 16 -17, 2013													
Little Wilder	X			X					X				X
Younger Lagoon	X	X		X					X				X
Natural Bridges		X		X	X				X			X	X
May 15 - 16, 2013													
Little Wilder	X			X	X								X
Younger Lagoon	X	X		X					X				X
Natural Bridges	X	X			X							X	X
July 18 - 19, 2013													
Little Wilder	X	X		X					X			X	X
Younger Lagoon	X	X		X					X				
Natural Bridges		X		X	X						X	X	X
October 21- 22, 2013													
Little Wilder		X		X									
Younger Lagoon		X		X					X				X
Natural Bridges	X	X			X				X		X	X	X
February10-11, 2014													
Little Wilder	X	X		X									X
Younger Lagoon									X				X
Natural Bridges		X			X						X		X
April 27-28, 2014													

Little Wilder		X		X					X				X
Younger Lagoon		X							X				
Natural Bridges		X		X	X						X	X	X
July 30-31, 2014													
Little Wilder		X		X					X				X
Younger Lagoon		X		X					X				
Natural Bridges		X			X		X		X		X	X	X
November 4-5, 2014													
Little Wilder				X					X			X	X
Younger Lagoon		X		X					X				
Natural Bridges		X					X				X		X
January 26-27, 2015													
Little Wilder	X								X				X
Younger Lagoon	X	X		X			X						X
Natural Bridges	X				X		X		X		X	X	X
April 14-15, 2015													
Little Wilder	X	X							X				X
Younger Lagoon	X	X		X					X				
Natural Bridges	X				X		X		X		X	X	X
July 8-9, 2015 Younger Lagoon	X			X	X				X				X
October 29-30, 2015 Younger Lagoon		X		X									
February 2-3, 2016 Younger Lagoon		X							X				
May3-4, 2016 Younger Lagoon		X							X				
July 12-13, 2016 Younger Lagoon		X		X									
November 9-10, 2016 Younger Lagoon		X		X					X				
March 1-2, 2017 Younger Lagoon	X	X		X									

April 25-26, 2017 Younger Lagoon		X					X		X				X
August 2-3, 2017 Younger Lagoon					X				X				
October 25-26, 2017 Younger Lagoon		X					X		X	X			X
February 7-8, 2018 Younger Lagoon	X			X	X				X				X
May 1-2, 2018 Younger Lagoon	X								X				X
July 12-13, 2018 Younger Lagoon	X			X					X				X
November 7-8, 2018 Younger Lagoon	X	X					X		X				X
February 20-21, 2019 Younger Lagoon	X	X					X		X				
May 15-16, 2019 Younger Lagoon	X			X					X				X
July 15-16, 2019 Younger Lagoon		X											X
October 29-30, 2019 Younger Lagoon													X
February 11-12, 2020 Younger Lagoon		X							X				X
May 20-21, 2020 Younger Lagoon		X											X
August 18-19, 2020 Younger Lagoon													
Nov 16-17, 2020 Younger Lagoon				X									
February 22-23, 2021 Younger Lagoon				X		X		X					
May 4-5, 2021 Younger Lagoon				X		X		X					
August 10-11, 2021 Younger Lagoon				X				X					

Nov 16-17, 2021 Younger Lagoon		X		X									X
February 7-8, 2022 Younger Lagoon	X								X				X
May 3-4, 2022 Younger Lagoon	X								X				X
August 3-4, 2022 Younger Lagoon			X										X
Nov 1-2, 2022 Younger Lagoon													X
February 7-8, 2023 Younger Lagoon				X									
May 4-5, 2023 Younger Lagoon	X						X		X				
August 15-16, 2023 Younger Lagoon				X			X						X
Nov 8-9, 2023 Younger Lagoon		X		X			X		X				X
February 13-14, 2024 Younger Lagoon													
April 30 - May5, 2024 Younger Lagoon									X				
	3	3	3	3	3	2	3	1	3	3	1	2	3

[1]Unidentified small rodent.

Table 8. Frequency of occurrence, and native species richness, of animals and human use types through spring 2024 track plate sampling efforts. Actual detections are included parenthetically.

Site	Rodent	Raccoon	Cottontail	Bobcat	Skunk	Squirrel	Deer	Opossum	Coyote	Bicycle	Vehicle	Dog	Human	[1]Native sp. Richness
Little Wilder	(16) 70%	(12) 52%	(4) 17%	(17) 74%	(8) 35%	(1) 4%	(4) 17%	(0) 0%	(17) 74%	(2) 9%	(1) 4%	(5) 22%	(20) 87%	8
Younger Lagoon	(21) 38%	(32) 58%	(4) 7%	(28) 51%	(7) 13%	(2) 4%	(11) 20%	(0) 0%	(34) 62%	(1) 2%	(0) 0%	(0) 0%	(25) 45%	8
Natural Bridges	(10) 48%	(16) 76%	(4) 19%	(9) 43%	(15) 71%	(0) 0%	(8) 38%	(1) 5%	(7) 33%	(1) 5%	(14) 67%	(17) 81%	(21) 100%	8

[1]Bicycle, vehicle, dog, and human excluded.

Small Mammal Trapping

Although we are no longer monitoring Natural Bridges and Sand Plant beaches, we continue include results in order to have standalone reports that include all data going forward. A total of 406 individual small mammals representing four species have been captured during small mammal trapping efforts (Table 9).

Table 9. Summary of Sherman trapping efforts

Site	Pema[1]	Mica[1]	Reme[1]	Rara[1,2]	**TOTAL**
April 24 -25, 2010					
Little Wilder	8	5			**13**
Younger Lagoon	2				**2**
Natural Bridges			3		**3**
August 11-12, 2010					
Little Wilder	5	4			**9**
Younger Lagoon			1		**1**
Natural Bridges					**0**
November 15-16, 2010					
Little Wilder	5	1			**6**
Younger Lagoon				1	**1**
Natural Bridges		3	1		**4**
February 15-16, 2011					
Little Wilder	5				**5**
Younger Lagoon	6	5	0		**11**
Natural Bridges			2		**2**
April 29-30, 2011					
Little Wilder	4				**4**
Younger Lagoon	1				**1**
Natural Bridges					**0**
August 8-9, 2011					
Little Wilder	6	2			**8**
Younger Lagoon	3		3		**6**
Natural Bridges		1	5		**6**

Site	Pema[1]	Mica[1]	Reme[1]	Rara[1,2]	**TOTAL**
March 30, 2012					
Little Wilder	6				**6**
Younger Lagoon	1		1		**2**
Natural Bridges		5	2		**7**
May 15-16, 2012					
Little Wilder	4	1			**5**
Younger Lagoon	3				**3**
Natural Bridges		5			**5**
August 25-26, 2012					
Little Wilder	4				**4**
Younger Lagoon	3				**3**
Natural Bridges		4	2		**6**
November 5-6, 2013					
Little Wilder	2		1		**3**
Younger Lagoon	3				**3**
Natural Bridges		3	1		**4**
January 13-14, 2013					
Little Wilder	2		4		**6**
Younger Lagoon	2				**2**
Natural Bridges		2	1		**3**
May 1-2, 2013					
Little Wilder	1		1		**2**
Younger Lagoon	3		2		**5**
Natural Bridges		5			**5**
July 16-17, 2013					
Little Wilder	3		1		**4**
Younger Lagoon	1				**1**
Natural Bridges			1		**1**
October 22-23, 2013					
Little Wilder	5	1		1	**7**
Younger Lagoon	1				**1**

Site	Pema[1]	Mica[1]	Reme[1]	Rara[1,2]	**TOTAL**
Natural Bridges		1	2		**3**
February 12-13, 2014					
Little Wilder	2	1	1		**4**
Younger Lagoon	1		1		**2**
Natural Bridges		2			**2**
April 28-29, 2014					
Little Wilder	4	1			**5**
Younger Lagoon	3		1		**4**
Natural Bridges	1				**1**
July 30-31, 2014					
Little Wilder	1	1			**2**
Younger Lagoon	2				**2**
Natural Bridges	1		1		**2**
November 4-5, 2014					
Little Wilder	3	1			**4**
Younger Lagoon	4				**4**
Natural Bridges	2	1	3		**6**
January 26-27, 2015					
Little Wilder	3		1		**4**
Younger Lagoon	4		5		**9**
Natural Bridges			3		**3**
April 14-15, 2015					
Little Wilder	2		3		**5**
Younger Lagoon	3				**3**
Natural Bridges					**0**
July 8-9, 2015					
Younger Lagoon	7		1		**8**

Site	Pema[1]	Mica[1]	Reme[1]	Rara[1,2]	**TOTAL**
October 29-30, 2015					
Younger Lagoon	2		6		**8**
February 2-3, 2016					
Younger Lagoon			6		**6**
May 3-4, 2016					
Younger Lagoon			3	1	**4**
July 12-13, 2016					
Younger Lagoon			4		**3**
November 9-10, 2016					
Younger Lagoon	2		1		**3**
March 1-2, 2017					
Younger Lagoon	2		1		**3**
April 25-26, 2017					
Younger Lagoon			1		**1**
August 2-3, 2017					
Younger Lagoon					**0**
October 25-26, 2017					
Younger Lagoon	1		2		**3**
February 8-9, 2018					
Younger Lagoon	2				**2**

Site	Pema[1]	Mica[1]	Reme[1]	Rara[1,2]	**TOTAL**
May 1-2, 2018					
Younger Lagoon	1		2		**3**
July 12-13, 2018					
Younger Lagoon	6				**6**
November 7-8, 2018					
Younger Lagoon	7		2		**9**
February 20-21, 2019					
Younger Lagoon	5		2		**8**
May 14-15, 2019					
Younger Lagoon	4				**4**
May 14-15, 2019					
Younger Lagoon	5		2		**8**
July 15-16, 2019					
Younger Lagoon	4				**4**
October 30-31, 2019					
Younger Lagoon	1		1		**2**
February 11-12, 2020					
Younger Lagoon	2		1		**3**
May 20-21, 2020					
Younger Lagoon	1		2		**3**

Site	Pema[1]	Mica[1]	Reme[1]	Rara[1,2]	**TOTAL**
August 18-19, 2020					
Younger Lagoon	6				**6**
November 16-17, 2020					
Younger Lagoon	6		2		**8**
February 23-24, 2021					
Younger Lagoon	6		2		**8**
May 4-5, 2021					
Younger Lagoon	5				**5**
August 10-11, 2021					
Younger Lagoon	1	1			**1**
November 16-17					
Younger Lagoon	5				**5**
February 8-9, 2022					
Younger Lagoon	5				**5**
May 3-4, 2022					
Younger Lagoon	7				**7**
August 3-4, 2022					
Younger Lagoon	4	1			**5**
November 1-2, 2022					
Younger Lagoon	9	4			**13**
February 7-8, 2023					

Site	Pema[1]	Mica[1]	Reme[1]	Rara[1,2]	**TOTAL**
Younger Lagoon	4				**4**
May 4-5, 2023					
Younger Lagoon	1				**1**
August 15-16, 2023					
Younger Lagoon	3				**3**
November 8-9, 2023					
Younger Lagoon	4				**4**
February 13-14, 2024					
Younger Lagoon	5				
April 30-May 1, 2024					
Younger Lagoon					**0**
TOTAL	**248**	**61**	**94**	**3**	**406**

[1]Pema = *Peromyscus maniculatus*; Mica = *Microtus californicus*; Rema = *Reithrodontomys megalotis*; Rara = *Rattus norvegicus.* [2]Escaped before positive ID; however, suspected to be Norway Rat.

Invertebrate Monitoring

Although we are no longer monitoring Natural Bridges and Sand Plant beaches, we continue include results in order to have standalone reports that include all data going forward. Over all, Younger Lagoon consistently had the greatest number of individuals captured; however, patterns of family richness varied among sampling sessions (Figures 7-8). This may have been at least partially due to trapping methodology and disturbance as raccoons and perhaps coyote disturbed sample cups during some of the sampling efforts. Individuals have been taxonomically keyed to family.

Avian Surveys

Although we are no longer monitoring Natural Bridges and Sand Plant beaches, we continue include results in order to have standalone reports that include all data going forward. Avian species varied among sites and sampling dates (Table 10); however, number of species and abundance were consistently greatest at Natural Bridges and Younger Lagoon.

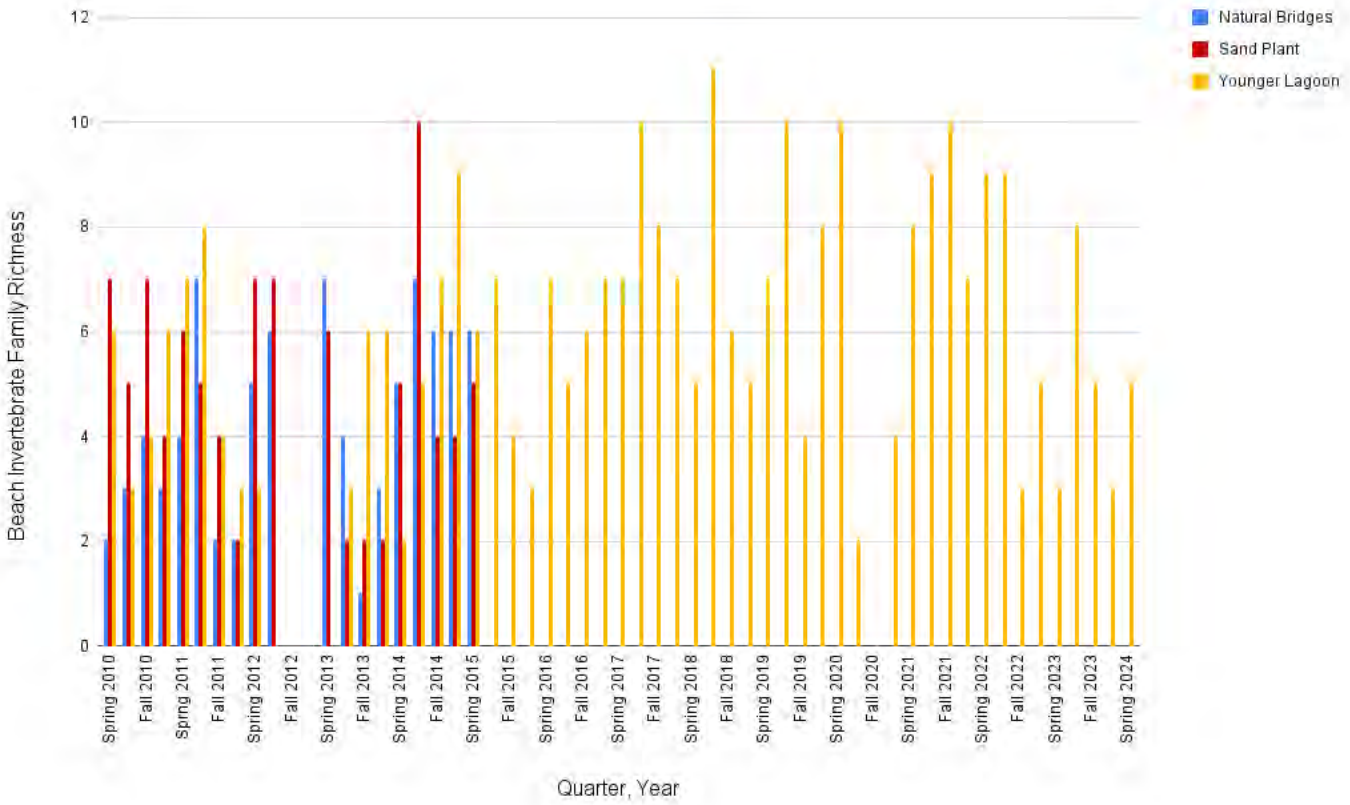

Figure 7. Family richness of invertebrates across all beaches

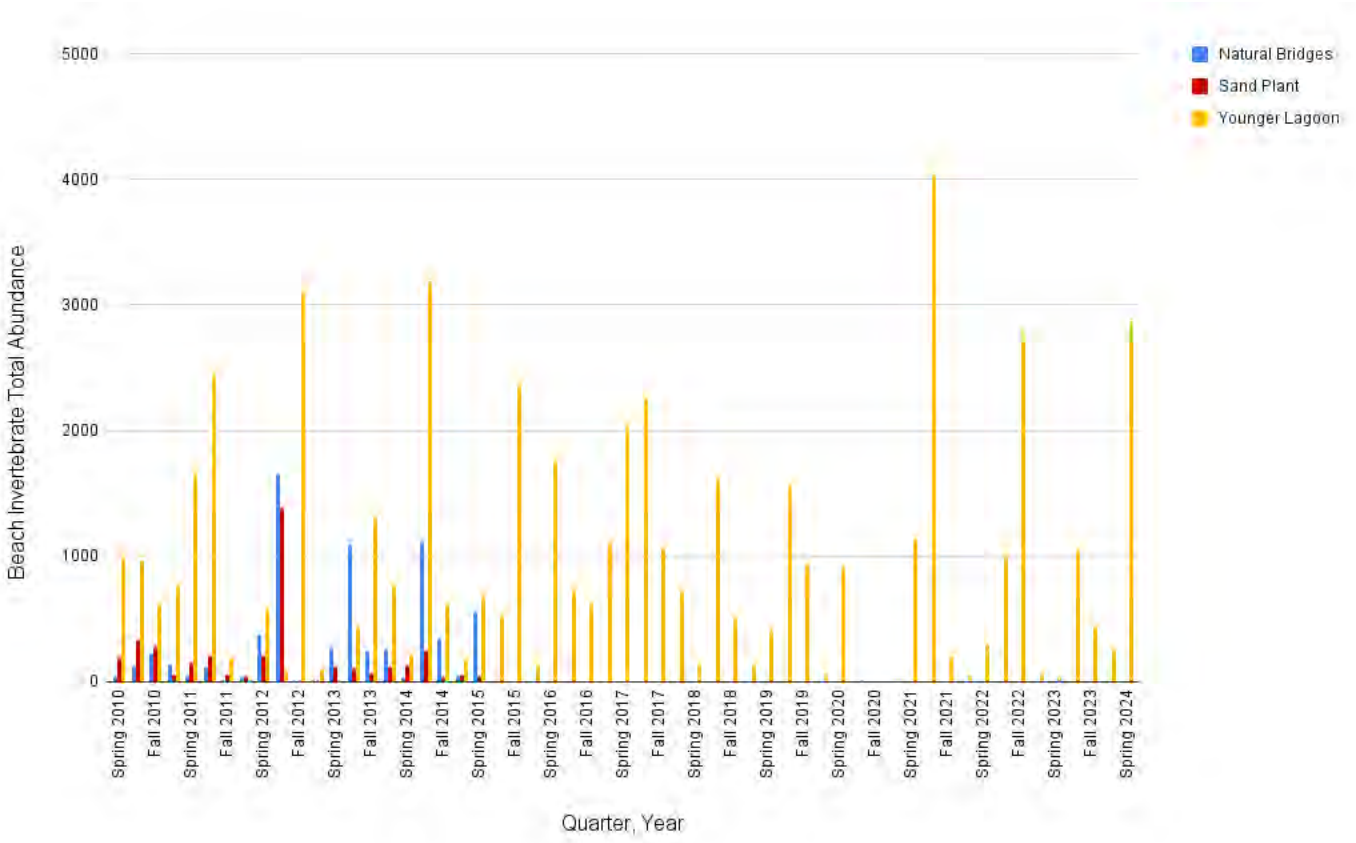

Figure 8. Total abundance of invertebrates at Natural Bridges, Sand Plant Beach, and Younger Lagoon beaches.

Table 10. Summary of bird surveys at Sand Plant Beach, Younger Lagoon, and Natural Bridges beaches.

Site	AMCO	AMCR	AMPE	AMWI	ANHU	BBPL	BEWR	BCNH	BASP	BARS	BLOY	BLPH	BLTU	BRAC	BRBL	BRPE	BUFF	BUSH	CAGO	CAGU	CLSW	COMU	CORA	COYE
April 24 & 26, 2010																								
Sand Plant																								
Younger Lagoon																								
Natural Bridges															2									
August 11-12, 2010																								
Sand Plant																								
Younger Lagoon											2													
Natural Bridges		2													19									
November 15-16, 2010																								
Sand Plant																								
Younger Lag	2												1			27								
Natural Bridges															1									
February 15-16, 2011																								
Sand Plant																								
Younger Lagoon																								
Natural Bridges		3													2		1			58				
May 3-4, 2011																								
Sand Plant		2														8								
Younger Lagoon																								
Natural Bridges		1										1								3				
July 22-23, 2011																								
Sand Plant										4		1									4			
Younger Lagoon																								
Natural Bridges		9								4					6									
March 29-30, 2012																								
Sand Plant																				1				
Younger Lag	3														5									
Natural Bridges													1											
May 15-16, 2012																								
Sand Plant																								
Younger Lagoon											3				2									
Natural Bridges		1													1									
August 25-26, 2012																								
Sand Plant																				2			2	
Younger Lagoon			1								1	1								4				
Natural Bridges																				1				
November 5-6, 2012																								
Sand Plant	5																							
Younger Lag	8														4									
Natural Bridges		2																						
January 13-14, 2013																								
Sand Plant																								
Younger Lag	5										1						1							
Natural Bridges																							1	
May 1-2, 2013																								
Sand Plant																								
Younger Lagoon															1				2					
Natural Bridges		2																						
July 16-17, 2013																								
Sand Plant								1												1			1	
Younger Lagoon								1				2			7					2				
Natural Bridges												2			1					1				
October 22-23, 2013																								
Sand Plant																				1			2	
Younger Lagoon						3						3								2				
Natural Bridges		2				1										1				3				
February 13-14, 2014																								
Sand Plant																			6					
Younger Lagoon																								
Natural Bridges		1																						
April 27-28, 2014																								
Sand Plant		3														20								
Younger Lagoon											8					13			2					
Natural Bridges		3									2					11				7	2			

Site	AMCD	AMCR	AMPE	AMWI	ANHU	BBPL	BEWR	BCNH	BASP	BARS	BLOY	BLPH	BLTU	BRAC	BRBL	BRPE	BUFF	BUSH	CAGO	CAGU	CLSW	COMU	CORA	COYE
July 30-31, 2014																								
Sand Plant																				10				
Younger Lagoon																18								
Natural Bridges																18								
November 4-5, 2014																								
Sand Plant	2																							
Younger Lag	6											2				5								
Natural Brid	10	11													2									
January 26-27, 2015																								
Sand Plant												2							2					
Younger Lag	9															8								
Natural Bridges		12										1				27							3	
April 14-15, 2015																								
Sand Plant	1											1							2					
Younger Lag	1											2												
Natural Brid	7															6								
July 8-9, 2015																								
Younger Lagoon								2		4														
October 29-30, 2015																								
Younger Lagoon												1				4				2				
February 2-3, 2016																								
Younger Lagoon												1												
May 3-4, 2016																								
Younger Lagoon										4		2							2					
12-Jul-16																								
Younger Lagoon										3		1			12					2				
November 9-10, 2016																								
Younger Lagoon												2				1								
March 1-2, 2017																								
Younger Lagoon												1								3				
April 25-26, 2017																								
Younger Lagoon		1																			6			
August 2-3, 2017																								
Younger Lagoon										8	2	2		8										
October 25-26, 2017																								
Younger Lagoon												1		6		2								
February 7-8, 2018																								
Younger Lagoon												1		2		2								
May 2-3, 2018																								
Younger Lagoon										5	2	2		5	1									
August 13-14, 2018																								
Younger Lagoon										6					2					1				
November 7-8, 2018																								
Younger Lagoon							1					11		29		40		1						
February 20-21, 2019																								
Younger Lag	4											2						12	4					1
May 14-15, 2019																								
Younger Lagoon										4					2					2	52			
July 16-17, 2019																								
Younger Lagoon										4		2								6	17		1	
October 30-31, 2019																								
Younger Lagoon																								
February 12-13, 2020																								
Younger Lag	3											4					1	5		5				
May 20-21, 2020																								

Site	DOCO	DUSP	EUCD	EUST	FOSP	GCSP	GRHE	GREG	GRTE	HEGU	HETH	HOFI	KILL	LBCU	LESA	LISP	MALL	MAGO	MEGU	MODO	NOHA	OSPR	PECO	PEFA
April 24 & 26																								
Sand Plant																	2							
Younger Lagc																	3							
Natural Brid													1											
August 11-12																								
Sand Plant										1														
Younger Lagc	1			1						2			2	1			10							
Natural Brid													1											
November 1																								
Sand Plant							3																	
Younger Lagc		3		1																			15	
Natural Brid							2	2		24			4						2					
February 15-																								
Sand Plant																	2							
Younger Lagc	5																							
Natural Brid														3			4						47	
May 3-4, 201																								
Sand Plant																	4					2		
Younger Lagc																								
Natural Brid	6							1					7	4			4	1						
July 22-23, 2																								
Sand Plant										8														
Younger Lagc																								
Natural Brid	10									48							7							
March 29-30																								
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Natural Brid								2									10	3						
May 15-16, 2																								
Sand Plant																								
Younger Lagc				2									3				2						25	
Natural Brid																	6							
August 25-26																								
Sand Plant													3											
Younger Lagc																	4						35	
Natural Brid													5				1							
November 5-																								
Sand Plant																								
Younger Lagc													5										14	
Natural Brid													4				9							
January 13-1																								
Sand Plant																								
Younger Lagc																							3	
Natural Brid							1																	
May 1-2, 203																								
Sand Plant																								
Younger Lagc				2													3			2			9	
Natural Brid								2									4							
July 16-17, 2																								
Sand Plant																								
Younger Lagc							1						2				25						8	
Natural Brid							1			11			1											
October 22-2																								
Sand Plant																								
Younger Lagc	1			1						300			4					1					33	
Natural Brid										3							2							
February 13-																								
Sand Plant																	2							
Younger Lagc								1															8	
Natural Brid																	2							
April 27-28, 2																								
Sand Plant																	6							
Younger Lagc													3				6							
Natural Brid	8							1					1				4							

Site	AMCO	AMCR	AMPE	AMWI	ANHU	BBPL	BEWR	BCNH	BASP	BARS	BLOY	BLPH	BLTU	BRAC	BRBL	BRPE	BUFF	BUSH	CAGO	CAGU	CLSW	COMU	CORA	COYE
Younger Lagoon										30									8	2	8		2	
August 18-19, 2020																								
Younger Lagoon										45		1		2							30	1		
November 16-17, 2020																								
Younger Lagoon												1		40										
February 23-24, 2021																								
Younger Lag	3			2								1		7					2					
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Younger Lagoon										4									8		14		1	
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Younger Lagoon												2											2	
November 16-17, 2021																								
Younger Lagoon											2	2		17									2	
February 8-9, 2022																								
Younger Lag	3				1						2			70			1		3				2	
May 3-4, 2022																								
Younger Lagoon									2	10		2		90		27			6	27	3		4	
August 3-4, 2022																								
Younger Lagoon												2		80									1	
November 1-2, 2022																								
Younger Lagoon												2		40										
February 7-8, 2023																								
Younger Lagoon												2							14					
May 4-5, 2023																								
Younger Lagoon									3		1	1							5		7			
August 15-16, 2023																								
Younger Lagoon							5			2		1												
November 8-9, 2023																								
Younger Lagoon												1		16										
February 13-14, 2024																								
Younger Lagoon												1		11					13					
April 30 - May 1, 2024																								
Younger Lagoon										9	2								15		5			

Site	DOCO	DUSP	EUCD	EUST	FOSP	GCSP	GRHE	GREG	GRTE	HEGU	HETH	HOFI	KILL	LBCU	LESA	LISP	MALL	MAGO	MEGU	MODO	NOHA	OSPR	PECO	PEFA
July 30-31, 2																								
Sand Plant								1		10			4											
Younger Lag								4					2				2							
Natural Brid										15			3											
November 4-																								
Sand Plant										6														
Younger Lag																								
Natural Brid								1		9			4											
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Sand Plant																	2							
Younger Lag																	4							
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April 14-15,																								
Sand Plant																	2							
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July 8-9, 201																								
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October 29-3																								
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Younger Lag								1					6											
March 1-2, 2																								
Younger Lag								1															1	
April 25-26,																								
Younger Lag				2													4							
August 2-3, 2																								
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Younger Lag													6											
February 7-8																								
Younger Lag						1				3			6											
May 2-3, 201																								
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Younger Lag								3							3		1						5	
November 7-																								
Younger Lag						1							6											1
February 20-																								
Younger Lag												1					4			2				
May 14-15, 2																								
Younger Lag				1									1				15			3			1	
July 16-17, 2																								
Younger Lag								1																
October 30-3																								
Younger Lag													3										52	
February 12-																								
Younger Lag					1						2									2	2		17	
May 20-21, 2																								

Site	DOCO	DUSP	EUCD	EUST	FOSP	GCSP	GRHE	GREG	GRTE	HEGU	HETH	HOFI	KILL	LBCU	LESA	LISP	MALL	MAGO	MEGU	MODO	NOHA	OSPR	PECO	PEFA
Younger Lag																	3				1		2	
August 18-19																								
Younger Lag										1			11				4			1				
November 1																								
Younger Lag								1		2			8								1			
February 23-																								
Younger Lag													1											
May 3-4, 202																								
Younger Lag								1									5							
August 10-11																								
Younger Lag								3		1						1								
November 1																								
Younger Lag						2				1														
February 8-9																								
Younger Lag													4				2							
May 3-4, 202																								
Younger Lag								1						3			5							
August 3-4, 2																								
Younger Lag							1			2				1										
November 1																								
Younger Lag	1							1																
February 7-8																								
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May 4-5, 202																								
Younger Lag																						1		
August 15-16																								
Younger Lag																								
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Younger Lag																								
February 13-																								
Younger Lag					1									1				1						
April 30 - Ma																								
Younger Lag								3						3			4							

Site	PIGR	PIGU	RBME	REHA	REPH	RNDU	RWBB	RODO	SAND	SAPH	SNEG	SOSP	SPSA	SSHA	SURF	VGSW	WCSP	WEBU	WEGU	WESA	WHIM	YRWA	Species Rich
April 24 & 26																							
Sand Plant																			2				1
Younger Lagc											2								2				3
Natural Brid					2						2												2
August 11-12																							
Sand Plant																							1
Younger Lagc											4								32				9
Natural Brid																			3				5
November 1																							
Sand Plant																			1				2
Younger Lagc									11				1						4				9
Natural Brid									140		1		1						17		1		11
February 15-																							
Sand Plant																			6				2
Younger Lagc										1													2
Natural Brid											18								6		19		10
May 3-4, 201																							
Sand Plant		35																	5		1		7
Younger Lagc																							0
Natural Brid								1											16		7		12
July 22-23, 2																							
Sand Plant		17									1								1				7
Younger Lagc																							0
Natural Brid		3						2			2								81		1		11
March 29-30																							
Sand Plant																							2
Younger Lagc											2								16		2		9
Natural Brid		2							65		2								10		5		9
May 15-16, 2																							
Sand Plant																			4		5		2
Younger Lagc		5						1			2								15				10
Natural Brid											2												4
August 25-26																							
Sand Plant																							3
Younger Lagc					8			1			1								7				10
Natural Brid													1						5	1			6
November 5-																							
Sand Plant																			1				2
Younger Lagc				1				4			2								3		10		9
Natural Brid											2		1		2						12		7
January 13-1																							
Sand Plant																							0
Younger Lagc	1								38	1	1												8
Natural Brid											1								11				4
May 1-2, 203																							
Sand Plant		8																	2				2
Younger Lagc																			11		2		8
Natural Brid																			23		2		5
July 16-17, 2																							
Sand Plant		7																					4
Younger Lagc		1									4												10
Natural Brid																			10				7
October 22-2																							
Sand Plant																							2
Younger Lagc											3								150		26		13
Natural Brid											4								110		24		8
February 13-																							
Sand Plant								1											103				4
Younger Lagc											4								7		10		5
Natural Brid											1								19		24		5
April 27-28, 2																							
Sand Plant		4																	24		2		6
Younger Lagc		8					1												2		2		9
Natural Brid																			18		7		11

Site	PIGR	PIGU	RBME	REHA	REPH	RNDU	RWBB	RODO	SAND	SAPH	SNEG	SOSP	SPSA	SSHA	SURF	VGSW	WCSP	WEBU	WEGU	WESA	WHIM	YRWA	Species Rich
July 30-31, 2																							
Sand Plant		3																	25		2		8
Younger Lag		3									3								28		1		8
Natural Brid									7										80		7		6
November 4-																							
Sand Plant							2												3				4
Younger Lag									11		1								10		8		7
Natural Brid									20		4		1						18				10
January 26-2																							
Sand Plant																			25				4
Younger Lag							10												27		1		7
Natural Brid							9				2								175		3		10
April 14-15,																							
Sand Plant		3																	5				6
Younger Lag							5				2								5				6
Natural Brid							4				3								21		9		7
July 8-9, 201																							
Younger Lag		4									2								31				7
October 29-3																							
Younger Lag																			6				4
February 2-3																							
Younger Lag		2									3								9		4		7
May 3-4, 201																							
Younger Lag							1						1						8				10
12-Jul-16																							
Younger Lag											1								2				7
November 9-																							
Younger Lag							5												6				8
March 1-2, 2																							
Younger Lag							6				1								2		1		10
April 25-26,																							
Younger Lag							2												2		4		8
August 2-3, 2																							
Younger Lag																							8
October 25-2																							
Younger Lag											1		1						10				7
February 7-8																							
Younger Lag							7												3				8
May 2-3, 201																							
Younger Lag							9														2		8
August 13-14																							
Younger Lag											4								5				9
November 7-																							
Younger Lag										1	1								75				11
February 20-																							
Younger Lag										2	2	1							3			2	13
May 14-15, 2																							
Younger Lag									1			3				5							12
July 16-17, 2																							
Younger Lag		3										3											8
October 30-3																							
Younger Lag										1									2				4
February 12-																							
Younger Lag										2	1	4											13
May 20-21, 2																							

Site	PIGR	PIGU	RBME	REHA	REPH	RNDU	RWBB	RODO	SAND	SAPH	SNEG	SOSP	SPSA	SSHA	SURF	VGSW	WCSP	WEBU	WEGU	WESA	WHIM	YRWA	Species Rich
Younger Lag											1	1											10
August 18-19																							
Younger Lag											6	2							1				12
November 1																							
Younger Lag																			5				7
February 23-																							
Younger Lag											1								1				8
May 3-4, 202																							
Younger Lag											3	11							1				8
August 10-11																							
Younger Lag											2			1					3				8
November 1																							
Younger Lag										1		3					4		21				12
February 8-9																							
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May 3-4, 202																							
Younger Lag												3							33				14
August 3-4, 2																							
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November 1-																							
Younger Lag										1		1							13				7
February 7-8																							
Younger Lag									7			1							7				7
May 4-5, 202																							
Younger Lag	5		1			1						3							5				11
August 15-16																							
Younger Lag												1							5				5
November 8-																							
Younger Lag											3								5				4
February 13-																							
Younger Lag									28			4							28				9
April 30 - Ma																							
Younger Lag											3	3				5		1	3				12

AMCO, American Coot; AMCR, American Crow; AMPE, American White Pelican; AMWI, American Widgeon; ANHU, Anna's Hummingbird; BASP, Baird's Sandpiper; BASW, Barn Swallow; BEWR, Bewick's Wren; BLOY, Black Oystercatcher; BLPH, Black Phoebe; BLTU, Black Turnstone; BBPL, Black-bellied Plover; BCNH, Black-crowned Night Heron; BRAC, Brandt's Cormorant; BRBL, Brewer's Blackbird; BRPE, Brown Pelican; BUFF, Bufflehead; BUSH, Bushtit; CAGU, California Gull; CAGO, Canada Goose; CLSW, Cliff Swallow; COMU, Common Murre; CORA, Common Raven; COYE, Common Yellowthroat; DOCO, Double- Crested Cormorant; DUSP, Dunlin; EUCD, Eurasian Collared-Dove; EUST, European Starling; FOSP, Fox Sparrow; GCSP, Golden crowned Sparrow; GREG, Great Egret; GRHE, Green Heron; GRTE, Green-Winged Teal; HEGU, Heerman's Gull; HETH, Hermit Thrush; HOFI, House Finch; KILL, Killdeer; LESA, Least Sandpiper; LISP, Lincoln's Sparrow; LBCU, Long-billed Curlew; MALL, Mallard; MAGO, Marbled Godwit; MEGU, Mew Gull; MODO, Mourning Dove; NOHA, Northern Harrier; PECO, Pelagic Cormorant; PEFA, Peregrine Falcon; PIGU, Pigeon Guillemot; PIGR, Pine Grosbeak; REPH, Red Phalarope; RBME, Red- breasted Merganzer; Red-tailed Hawk; RWBB, Red-Winged Blackbird; RNDU, Ring-necked Duck; RODO, Rock Dove; SAND, Sanderling; SAPH, Say's Phoebe; SSHA, Sharp-shinned Hawk; SNEG, Snowy Egret; SOSP, Song Sparrow; SPSA, Spotted Sandpiper; SURF, Surfbird; VGSW, Violet-green Swallow; WEBU, Western Bluebird; WEGU, Western Gull; WESA, Western Sandpiper; WHIM, Whimbrel; WCSP, White-crowned Sparrow; YRWA, Yellow- rumped Warbler

Discussion

Data collected indicate that Younger Lagoon Reserve (YLR) supports a wide variety of native flora and fauna, provides habitat for sensitive and threatened species, supports a very unique beach dune community, and is extensively used for research and education.

A parameter that we have mapped, and is evident from visual observation and photo documentation, is the presence of dune hummocks and downed woody material at YLR, both of which are almost entirely absent at Sand Plant Beach and Natural Bridges (Figure 9). It is likely that the hummocks and woody material are absent at Natural Bridges and Little Wilder due to human trampling, collection, and burning. These features provide habitat for plant species such as the succulent plant dudleya, which grow on downed woody material and dune hummocks at YLR, as well as burrowing owls that use burrows in hummocks and seek shelter beneath downed woody material at YLR.

Although Younger Lagoon does experience human use, the intensity and number of users is relatively small. Additionally, authorized users of the YLR beach are educated about the reserve, unique natural features, and are not allowed to collect woody material or trample dune vegetation. It is likely that increased unauthorized overnight human use of the beach prior to the pandemic had a negative impact on native mammals such as bobcats. Reserve staff will continue their public outreach and education efforts, continue to partner with UCSC campus police to ensure the security of the reserve and protect sensitive resources and ongoing research, and continue to report back to the Commission on the negative impacts of unauthorized beach use. The relatively natural state of YLR beach and dune vegetation is unique among the three sites and most pocket beaches in Santa Cruz County and likely represents a glimpse into what many of the pocket beaches in the greater Monterey Bay area looked like prior to significant human disturbance.

Open access to the beach would likely result in the loss of the unique ecological characteristics of the site and certainly reduce its effectiveness as a research area for scientific study. Controlled beach access through the free Seymour Center docent led tours, provides an appropriate level of supervised access that enables people to see and learn about the lagoon habitat while limiting impacts to the system. We recommend that this continue.

Figure 9. Younger Lagoon dune map. Survey data and resulting elevation model output shows topographic features on Younger Lagoon Beach.

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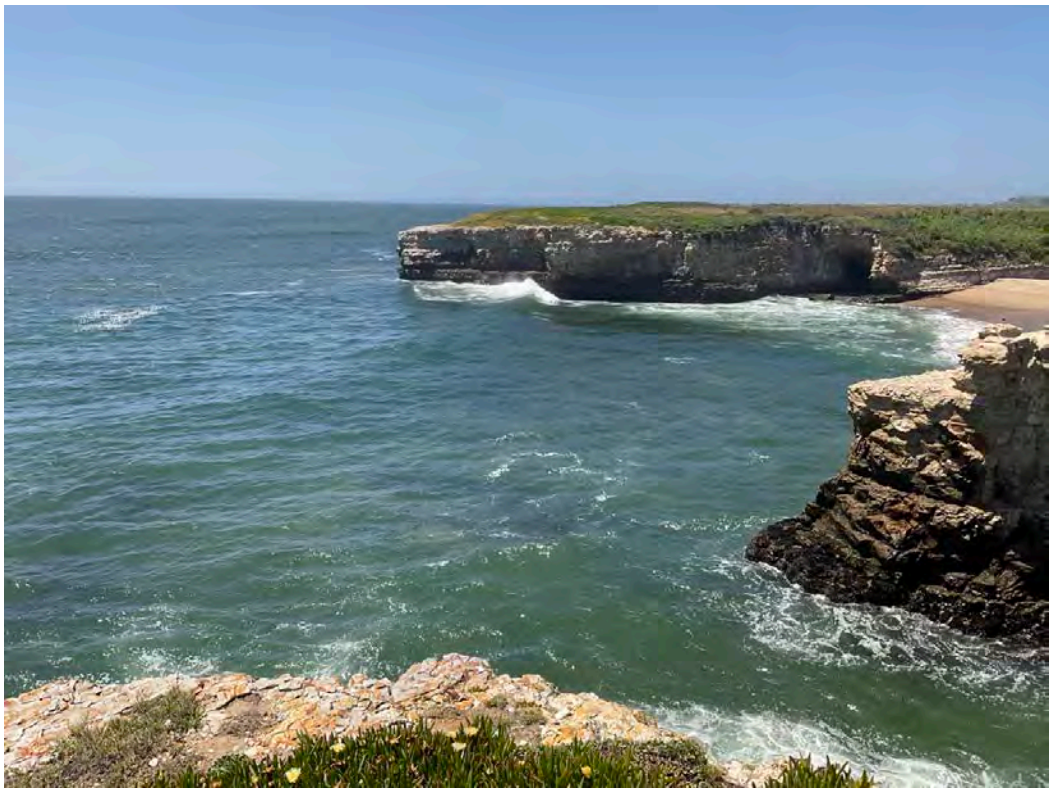
Appendix 1. Younger Lagoon Photos.



YLR Beach Photopoint #1 (W). May 7th, 2024. Photographer: Vaughan Williams Camera: Apple iPad Pro (3rd generation).

YLR Beach Photopoint #1 (NW). May 7th, 2024. Photographer: Vaughan Williams Camera: Apple iPad Pro (3rd generation).

YLR Beach Photopoint #1 (N). May 7th, 2024. Photographer: Vaughan Williams Camera: Apple iPad Pro (3rd generation).

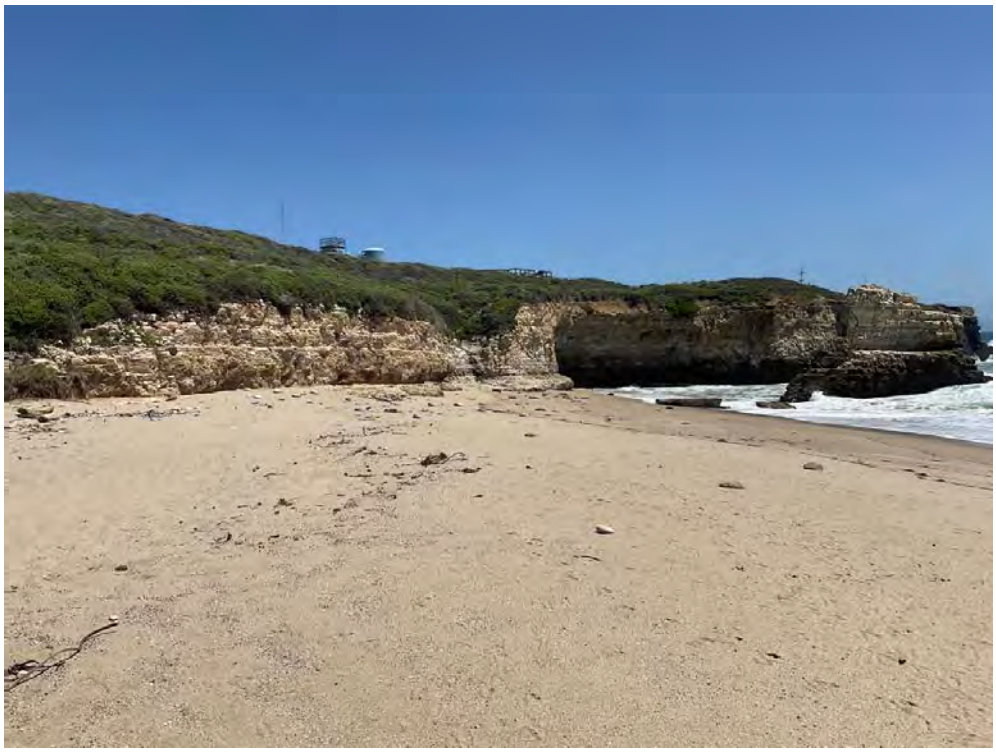
YLR Beach Photopoint #2 (S). May 7th, 2024. Photographer: Vaughan Williams Camera: Apple iPad Pro (3rd generation).

YLR Beach Photopoint #2 (SW). May 7th, 2024. Photographer: Vaughan Williams Camera: Apple iPad Pro (3rd generation).

YLR Beach Photopoint #2 (W). May 7th, 2024. Photographer: Vaughan Williams Camera: Apple iPad Pro (3rd generation).

YLR Beach Photopoint #2 (NW). May 7th, 2024. Photographer: Vaughan Williams
Camera: Apple iPad Pro (3rd generation).

YLR Beach Photopoint #3 (SE). May 7th, 2024. Photographer: Vaughan Williams
Camera: Apple iPad Pro (3rd generation).



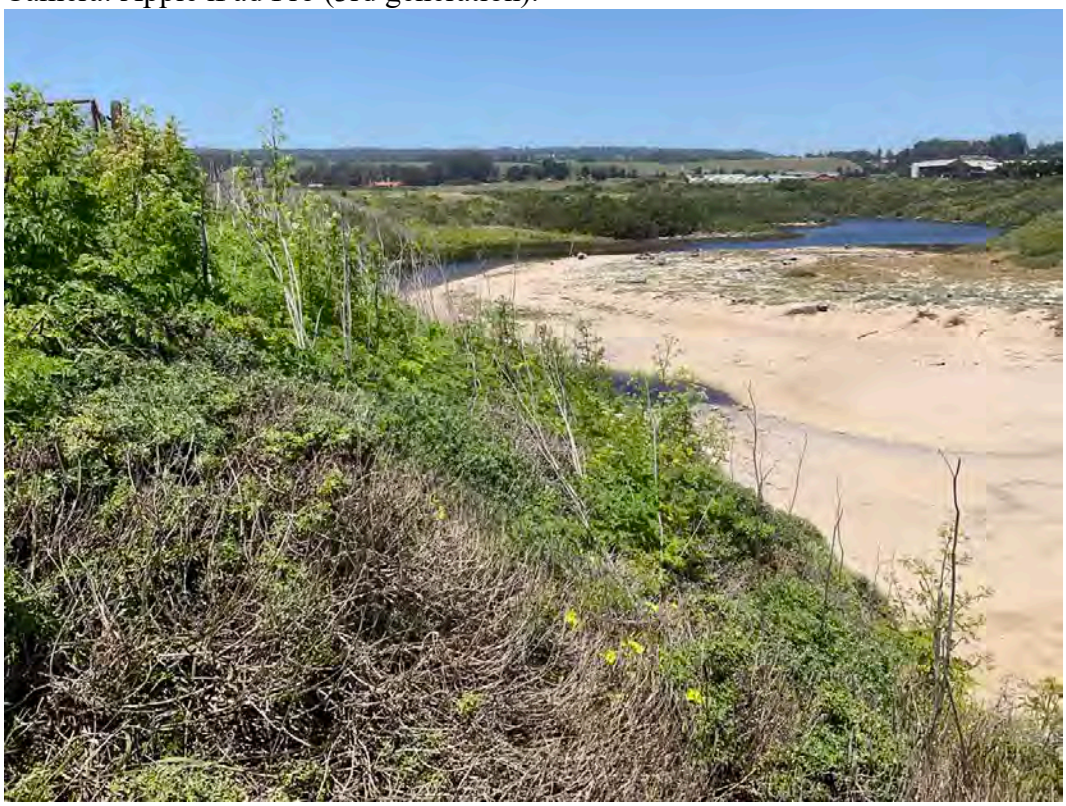
YLR Beach Photopoint #3 (E). May 7th, 2024. Photographer: Vaughan Williams
Camera: Apple iPad Pro (3rd generation).

YLR Beach Photopoint #3 (NE). May 7th, 2024. Photographer: Vaughan Williams
Camera: Apple iPad Pro (3rd generation).

YLR Beach Photopoint #3 (N). May 7th, 2024. Photographer: Vaughan Williams
Camera: Apple iPad Pro (3rd generation).

YLR Beach Photopoint #3 (NW). May 7th, 2024. Photographer: Vaughan Williams
Camera: Apple iPad Pro (3rd generation).

YLR Beach Photopoint #3 (W). May 7th, 2024. Photographer: Vaughan Williams Camera: Apple iPad Pro (3rd generation).



YLR Beach Photopoint #4 (N). May 7th, 2024. Photographer: Vaughan Williams Camera: Apple iPad Pro (3rd generation).

UC Santa Cruz NOID 12 (20-1)

SCZ-NOID-0004-20

Special Conditions Implementation Report 9

January 1, 2025 – June 30, 2025

Burrowing owl on the Younger Lagoon Reserve Beach Dunes

UC Santa Cruz NOID 12 (20-1)
Special Conditions Implementation Report 9

Overview and Executive Summary

On October 7, 2020, the California Coastal Commission approved UC Santa Cruz's NOID 12 (20-1) as consistent with UC Santa Cruz's approved Coastal Long Range Development Plan with the addition of new requirements supplementing the existing (NOID 9 18-1) five staff-recommended special conditions. The five special conditions included 1) Free Beach Tours, 2) Beach Tour Outreach Plan, 3) Beach Tour Signs, 4) Beach Tour Availability and Monitoring, and 5) Beach Access Management Plan Duration. Within 30 days of the approval (i.e., by November 7, 2020), UC Santa Cruz was required to submit a plan for implementation of special condition 2 (Outreach Plan) to the Executive Director of the California Coastal Commission. The plan for implementation of the special conditions was submitted to the Executive Director of the California Coastal Commission on November 5, 2020 and approved as submitted. Special condition 4 requires that at least every six months (i.e., by June 30th and December 31st each year), UC Santa Cruz shall submit two copies of a Beach Tour Monitoring Report for Executive Director review and approval. UC Santa Cruz's report on the implementation of these special conditions for the period of January 1, 2025 through June 30, 2025 is detailed below. UC Santa Cruz has included information in this report from the previous eight reporting periods covered under NOID 12 (20-1), the four reporting periods covered under NOID 9 (18-1), and one-year prior, to provide historical and cumulative reference data. This is the ninth report under NOID 12 (20-1). The next report under NOID 12 (20-1) is due by December 31, 2025.

A summary of UC Santa Cruz's compliance with the five special conditions is below.

Special Condition	Status	Notes
1) Free Beach Tours	Completed	All beach tours are offered for free without admission to the Seymour Center.
2) Beach Tour Outreach Plan	Completed & Ongoing	UC Santa Cruz's Updated Beach Tour Outreach Plan was approved by the Executive Director in November 2020 and all beach tour outreach materials now clearly state that the beach tour is free. UC Santa Cruz's ongoing outreach efforts include regular social media postings and calendar listings, including publications that serve inland communities.
3) Beach Tour Signs	Completed	UC Santa Cruz's Beach Tour Signage Plan under NOID 9 (18-1) was approved by the

		executive director in January 2019 and "Free Beach Tour" signs have been installed at all of the required locations.
4) Beach Tour Availability and Monitoring	Completed & Ongoing	Free beach tours are offered per the required schedule – a minimum of 38 times a year on weekends and weekdays, and all of the required data on tour attendees has been and will continue to be collected. UC Santa Cruz submitted all of the previously required biannual reports on the beach tours covered under NOID 9 (18-1) and NOID 12 (20-1) on-time. This is the ninth report under NOID 12 (20-1).
5) Beach Access Management Plan Duration	In Progress	NOID 12 (20-1) is effective through December 31, 2025. UC Santa Cruz is required to submit their next Beach Access Management Plan NOID by July 1, 2025.

Due to the COVID-19 pandemic - and in response to UC Santa Cruz's request for a COVID-19 emergency waiver, on July 10, 2020 the Commission issued a permit waiver to UC Santa Cruz's in support of COVID-19-related temporary closures and free beach tour suspensions (see UC Santa Cruz's Pub. Res. Code section 30611 notification letter to the Commission dated July 6, 2020). The Seymour Center was temporarily closed and the free beach tour program temporarily suspended in early March 2020. As requested by Commission staff, UC Santa Cruz's notified the Commission in May 2021 and May 2022 of the University's phased reopening efforts. The Seymour Center partially reopened with some limited outdoor programming in summer 2021, the Exhibit Hall reopened in October 2021, and the free beach tour program restarted in April 2022.

Since the program restarted, demand has fluctuated, but the number of annual beach tour participants has far exceeded pre-pandemic levels. Total tour attendance during the reporting period covered by this report (January1, 2025 – June 30, 2025) was approximately 12% higher than tour attendance during the same time period in 2024, approximately 40% higher than tour attendance during the same time period in 2023, and more than double the tour attendance during the same time period in 2019 and 2018. A summary of the free beach tour user data for the January 1 – June 30 tours in 2018 (pre special conditions), 2019 (first full year post special conditions), 2022, 2023, 2024, and 2025 is below:

Year	Dates	Total Tours Offered	Total Participants	Total # of Walk-in / Day-of Participants	Total # of Participants with a Reservation
2018	Jan 1-June 30	20	95	5	90
2019	Jan 1-June 30	20	100	31	69
2022	Jan 1-June 30*	12	127	11	116
2023	Jan 1-June 30	20	171	26	145
2024	Jan 1-June 30	20	184	17	167
2025	Jan 1-June 30	20	207	15	192

*First 8 tours of 2022 were canceled due to the COVID-19 pandemic.

In order to maintain public access and engagement during the COVID-19 pandemic while the tour program was temporarily suspended, the University created a virtual bilingual beach tour that is available on the Seymour Center and Younger Lagoon Reserve websites. Since its debut in November 2020, the English language virtual tour has been viewed nearly 700 times and the Spanish language virtual tour has been viewed more than 175 times. The virtual tour will continue to be offered post-pandemic and allows visitors from around the world to learn about the unique ecology and programs at the reserve in English and Spanish from the comfort of home or a mobile device.

The virtual tour websites feature a map of the reserve with 16 marked locations where visitors can click to watch videos about the features of each type of habitat. The locations of the virtual tour reflect beach tour lookouts where tour docents narrate information about the Younger Lagoon Reserve and beach habitat and wildlife, providing a virtual experience similar to the in-person free beach access tours.

Virtual Tour Links:
English: https://arcg.is/11m1Ga
Spanish: https://arcg.is/0q0Czv

A UC Santa Cruz undergraduate student created the virtual tour website and edited the videos as part of an internship project during the Covid-19 pandemic. This student completed all of the work on this project remotely, including learning about the reserve itself. A Younger Lagoon Reserve undergraduate student employee who assisted with the free in-person tours prior to the pandemic acts as the on-camera guide for both tours.

Condition 1.

FREE BEACH TOURS

All beach tours shall be offered for free, and UC Santa Cruz shall not require that beach tour users pay any separate admission fee to any other facility in order to take the beach tour. This condition shall not be construed as affecting existing, already-allowed admission fees for UC Santa Cruz's Seymour Marine Discovery Center. At a minimum, beach tour sign-ups shall be provided online (e.g., at UC Santa Cruz Marine Science Campus and Seymour Marine Discovery Center websites), by phone, and at the Seymour Marine Discovery Center front desk. UC Santa Cruz shall also identify and implement a mechanism for tracking the number of tour requests that are denied due to lack of tour availability or because tours are fully booked. All UC Santa Cruz materials referencing the beach at Younger Lagoon and/or beach tours shall be required to be modified as necessary to clearly identify that access to the beach is available for free via beach tours.

Implementation Report

All beach tours were offered for free (without admission fee). Beach tour sign-ups are available online through the Seymour Marine Discovery Center (Seymour Center) website, by phone and at the Seymour Center public admissions counter. Seymour Center staff track any tour requests that are denied due to lack of tour availability or because tours are fully booked as part of their ongoing monitoring of all visitor programs. Seymour Center staff record the number of participants that didn't show up for their reservation, were denied, the number of participants that were wait listed, as well as the date of the request, the date of the tour being requested, and how participants heard about the tour (see Condition 2). Although not required to, Seymour Center staff also record home zip code information of tour participants. All UC Santa Cruz public materials referencing the beach at Younger Lagoon and/or beach tours, including the websites below, clearly identify that access to the beach is available for free. (Note that there is no UC Santa Cruz Marine Science Campus website; tour information has been posted to the Younger Lagoon Reserve and Seymour Marine Discovery Center websites; see website links below).

https://youngerlagoonreserve.ucsc.edu/visit/public-tours.html
https://seymourcenter.ucsc.edu/visit/younger-lagoon-tours/

Condition 2.

BEACH TOUR OUTREACH PLAN

Within 30 days of this approval (i.e., by November 7, 2020), UC Santa Cruz shall submit two copies of an updated Outreach Plan for Executive Director review and approval, where such Plan shall identify all measures and venues to be used to advertise and increase awareness of the beach tours, including the online virtual tours. Promotional methods shall include, but are expected to not be limited to: UC Santa Cruz Marine Science Campus and Seymour Marine Discovery Center websites, press releases, calendar listings with UC Santa Cruz Events and local media (e.g., Good Times newspaper, Santa Cruz Sentinel, The Register-Pajaronian, The Half Moon Bay Review, The Monterey Herald, etc.), ads on radio (e.g., local radio stations KAZU, KRML, and others), print ads, social media (including Facebook, Twitter, and Instagram), and contacts with influential organizations in local environmental and community advocacy groups who may facilitate promotional opportunities. The Plan shall identify the language to be used in describing the virtual and free in-person beach tours (where said language shall be required to be consistent with the terms and conditions of this approval), and shall provide a schedule for each type of outreach, with the goal being to reach as many potential online viewers and potential beach tour participants as possible, including audiences beyond Santa Cruz that might not normally be reached through traditional and local means (e.g., inland communities). The Plan shall describe how UC Santa Cruz will monitor and track the Outreach Plan's execution so that UC Santa Cruz and the Coastal Commission can note the effectiveness of the plan and make changes as needed. UC Santa Cruz shall implement the updated approved Outreach Plan.

Implementation Report

Outreach was conducted according to the following plan, which was approved by the Executive Director and includes all of the measures and venues described in Condition 2:

Venue	Language	Schedule	Mechanism for Monitoring and Tracking	Status
Seymour Center Website	Younger Lagoon Reserve tours are free and open to the public. Space is limited to 18 participants. Call **831-459-3800** or sign-up here*. Virtual tours are available here**.	Permanent webpage: https://seymourcenter.ucsc.edu/visit/younger-lagoon-tours/	Provide link to updated website and date that updates were made	Seymour Center Website is up to date. No updates needed during this reporting period.

	* hyperlink to online sign-up **hyperlink to virtual tour			
YLR Website	Younger Lagoon Reserve tours are free and open to the public. Space is limited to 18 participants. Call **831-459-3800** or sign-up online. Virtual tours are available online. **seymourcenter.ucsc.edu**	Permanent webpage: https://youngerlagoonreserve.ucsc.edu/visit/public-tours.html	Provide link to updated website and date that updates were made	YLR Website is up to date. No updates needed during this reporting period.
Seymour Center Social Media • Facebook • Twitter • Instagram	Younger Lagoon Reserve tours are free and open to the public. Space is limited to 18 participants. Call **831-459-3800** or sign-up online. Virtual tours are available online. **seymourcenter.ucsc.edu**	Facebook—Monthly Twitter, Instagram --- Once a quarter	Document date that posts are made and capture a link to the post	Facebook posted 6/19/25 Instagram posted 6/19/25 The Seymour Center is no longer using Twitter (X).
YLR Social Media • Facebook • Instagram	Younger Lagoon Reserve tours are free and open to the public. Space is limited to 18 participants. Call **831-459-3800** or sign-up online. Virtual tours are available online. **seymourcenter.ucsc.edu**	Once a quarter	Document date that posts are made and capture a link to the post	Facebook posted 3/14/25 and 6/24/25. Instagram posted 3/14/25 and 6/24/25.
Calendar Listings • UC Santa Cruz Events • Good Times Newspaper (Santa Cruz)	Younger Lagoon Reserve tours are free and open to the public. Space is limited to 18 participants. Call **831-459-3800** or sign-up online. Virtual tours are available online.	Submitted monthly (calendar listings appear at the discretion of the media outlet.)	Document date that listings are submitted, and verify that the listing ran by capturing a link to the website (if online)	UC Santa Cruz Events: submitted and posted on Submitted 12/13/2024 & 5/23/2025 Event posted in in e-newsletter on 12/30/2024 & 4/27/2025

• Register Pajaronian Newspaper (Watsonville) • The Half Moon Bay Review • The Monterey Herald • KAZU public radio (Santa Cruz) • KRML (Monterey Bay)	**seymourcenter.ucsc.edu** For Spanish language outlets: Las visitas guiadas a la reserva de la laguna Younger son gratuitas y están abiertas al público. El espacio está limitado a 18 participantes. Llame al **831-459-3800** o regístrese en línea. Las visitas virtuales están disponibles en línea. **seymourcenter.ucsc.edu**			Good Times Newspaper submitted and posted on 1/15/2025, for all tours occurring in Jan-June 2025 Register Pajaronian Newspaper submitted and posted 1/15/2025 for all tours occurring in Jan-June The Half Moon Bay Review submitted and posted on 1/6/2025 & 3/28/2025. Note that HMBR postings expire after the event and thus are not linked here. Listing through June 30 ,2025 linked here The Monterey Herald submitted and posted on then 1/15/2025 for all tours in this reporting timeframe. Note that Monterey Herald postings expire after the event. KAZU public radio submitted on 2/18/2025, 3/28/2025, & 5/23/2025 for subsequent tours included in this reporting period. KRML does not currently have an online portal for submitting calendar listings. Seymour Center staff have contacted KRML regarding the process

				for submitting calendar listings. In addition to the above required calendar listings, calendar listings were also posted to the Environteers, Santa Cruz Sentinel (Submitted 2/18/2025) SantaCruz.com, Visit Santa Cruz (submitted 1/15/2025), Vicallity (submitted 2/18/2025), CEEIN and Think Local First calendars.
Ads • Santa Cruz Sentinel Newspaper (Santa Cruz) • Good Times Newspaper (Santa Cruz) • KAZU public radio (Santa Cruz)	Younger Lagoon Reserve tours are free and open to the public. Space is limited to 18 participants. Call **831-459-3800** or sign-up online. Virtual tours are available online. **seymourcenter.ucsc.edu** For Spanish language outlets: Las visitas guiadas a la reserva de la laguna Younger son gratuitas y están abiertas al público. El espacio está limitado a 18 participantes. Llame al **831-459-3800** o regístrese en línea. Las visitas virtuales están disponibles en línea.	Quarterly	Document date that ads ran, and verify that the ad ran by capturing a link to the website (if online)	Ads were purchased and ran in the Sentinel on every Thursday in March (3/6, 3/13, 3/20, & 3/27) and June (6/5,6/12, 6/19.6/26/2025). See Appendix 4. Ads were purchased and ran in the Good Times on 3/26 & 6/18/2025. See Appendix 4. Ads were purchased and ran on KAZU to run 10 times (7 weekend, 3 weekend) in March and June See Appendix 4.

	seymourcenter.ucsc.edu			
Press Release	Younger Lagoon Reserve tours are free and open to the public. Space is limited to 18 participants. Call **831-459-3800** or sign-up online. Virtual tours are available online. **seymourcenter.ucsc.edu** For Spanish language outlets: Las visitas guiadas a la reserva de la laguna Younger son gratuitas y están abiertas al público. El espacio está limitado a 18 participantes. Llame al **831-459-3800** o regístrese en línea. Las visitas virtuales están disponibles en línea. **seymourcenter.ucsc.edu**	Announce the virtual tours and resumption of free in-person beach tours post-COVID via two bilingual (English and Spanish) UC Santa Cruz press releases.	Document the date of the press releases, distribution list of media outlets and verify that the press releases were posted by capturing a link to the website (if online).	Completed 6/1/22; see NOID 12 (20-1) Special Conditions Implementation Report 3.
Contacts who may facilitate promotional opportunities • SMDC Educator Email Mailing List (815 subscribers) • Homeschool Mailing Email List (124 subscribers)	Younger Lagoon Reserve tours are free and open to the public. Space is limited to 18 participants. Call **831-459-3800** or sign-up online. Virtual tours are available online. **seymourcenter.ucsc.edu** For Spanish language outlets:	Once a quarter	Information about the tours will be emailed to contacts once a quarter. Date of email and recipients will be documented.	Seymour Center Newsletter sent 3/7/2025 & 6/16/2025 Enviroteers submitted and posted 2/18/2025. UCSC Lineup submitted. Posted in Tuesday Newsday on 12/13/2024 & 5/23/2025. Think Local First submitted and posted on posted

• Seymour Center E-newsletter list - 10,000 email recipients from all over California and beyond • UC Santa Cruz Events Email-newsletter • Andy Carman at Enviroteers, weekly newsletter • CSUMB Outdoor Recreation Resources and Opportunities Website • Outdoor World Outdoor Resources Website: https://www.theoutdoorworld.com/info/outdoor-resources	Las visitas guiadas a la reserva de la laguna Younger son gratuitas y están abiertas al público. El espacio está limitado a 18 participantes. Llame al **831-459-3800** o regístrese en línea. Las visitas virtuales están disponibles en línea. **seymourcenter.ucsc.edu**			12/26/2024, 1/2/2025, 1/30/2025, 2/20/2025, 2/27/2025, 4/10/2025, 5/8/2025 and 5/22/2025. Outdoor World has closed and the Outdoor Resources Website no longer exists. CSUMB Outdoor Recreation Resources and Opportunities Website is back up and running post-pandemic. Seymour Center staff have contacted CSUMB Outdoor Recreation regarding posting tour information to their site. California Environmental Education Interagency Network submitted on 7/23/2024 (not run).

In addition, tour participants were surveyed to determine how they heard about the tour, as required by the special conditions. This information is tracked with sign-up information (see Condition 1). Since the Seymour Center began tracking this information and during this reporting period, the most frequent way tour participants learned about the free beach tour was through the Seymour Center's website (Figures 1 and 2).

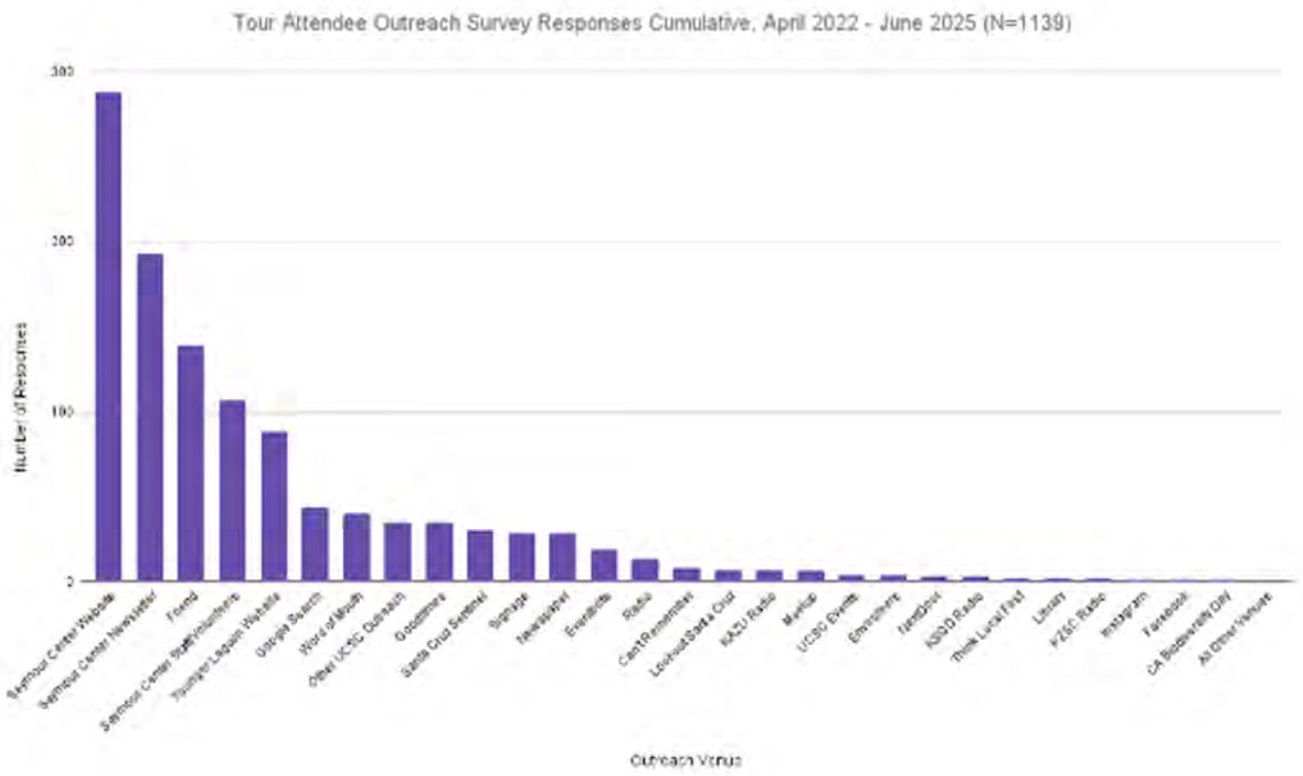


Figure 1. Cumulative outreach survey results for the free beach tours since the implementation of the user survey in April 2022 through June 2025 (N=1139). The most frequent way tour participants learned about the free beach tour was through the Seymour Center's website.

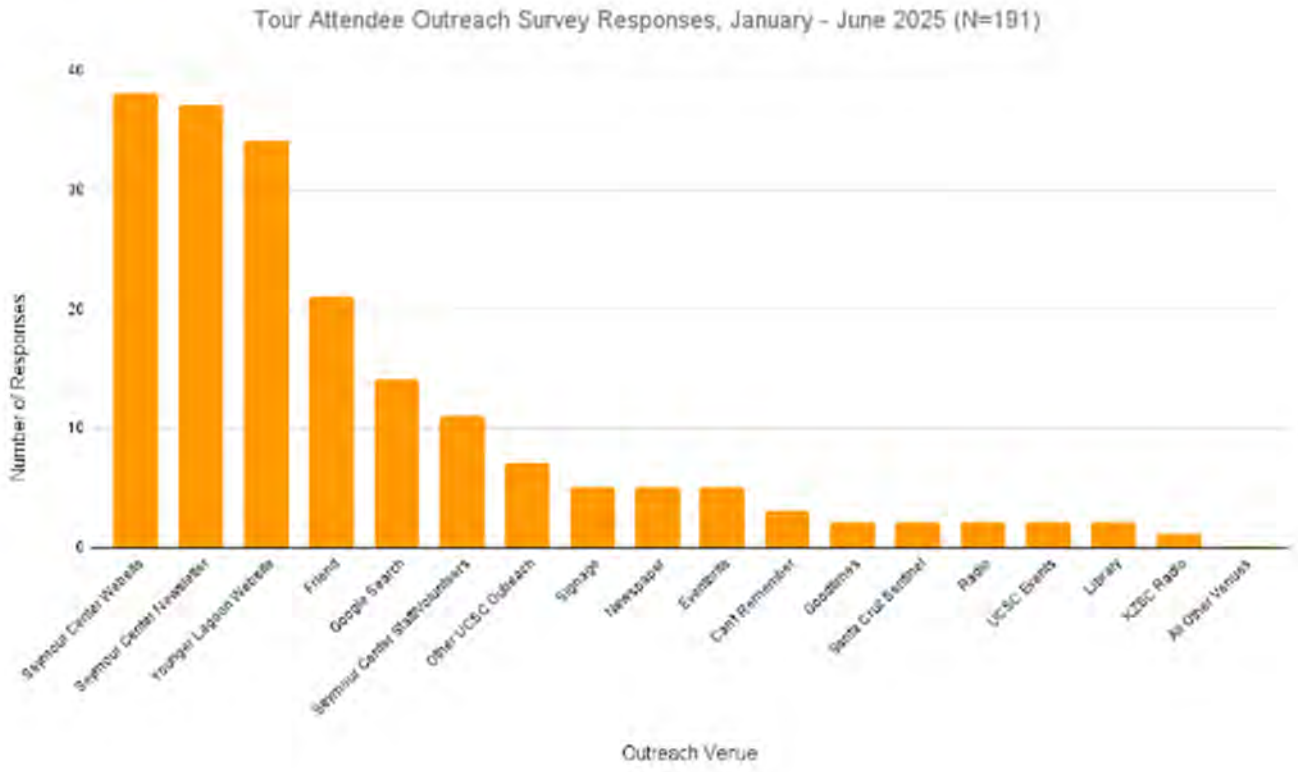


Figure 2. Outreach survey results for the free beach tours for the January - June 2025 reporting period (N=191). The most frequent way tour participants learned about the free beach tour was through the Seymour Center's website.

This data shows that the most frequent way tour participants learned about the free beach tour was through the Seymour Center's website. Some other special condition requirements are showing promise while others show little to no nexus to tour sign ups.

In addition, although not required to do so by NOID 12 (20-1), Seymour Center staff also began recording the home zip code information of tour participants in April 2023 in order to better understand trends in tour participation. Since April 2023, over 95% of free beach tour participants were from California. Approximately 60% of participants were from Santa Cruz County and approximately 17% of participants were from other counties along the California coast, while approximately 16% were from inland California communities (Figure 3).

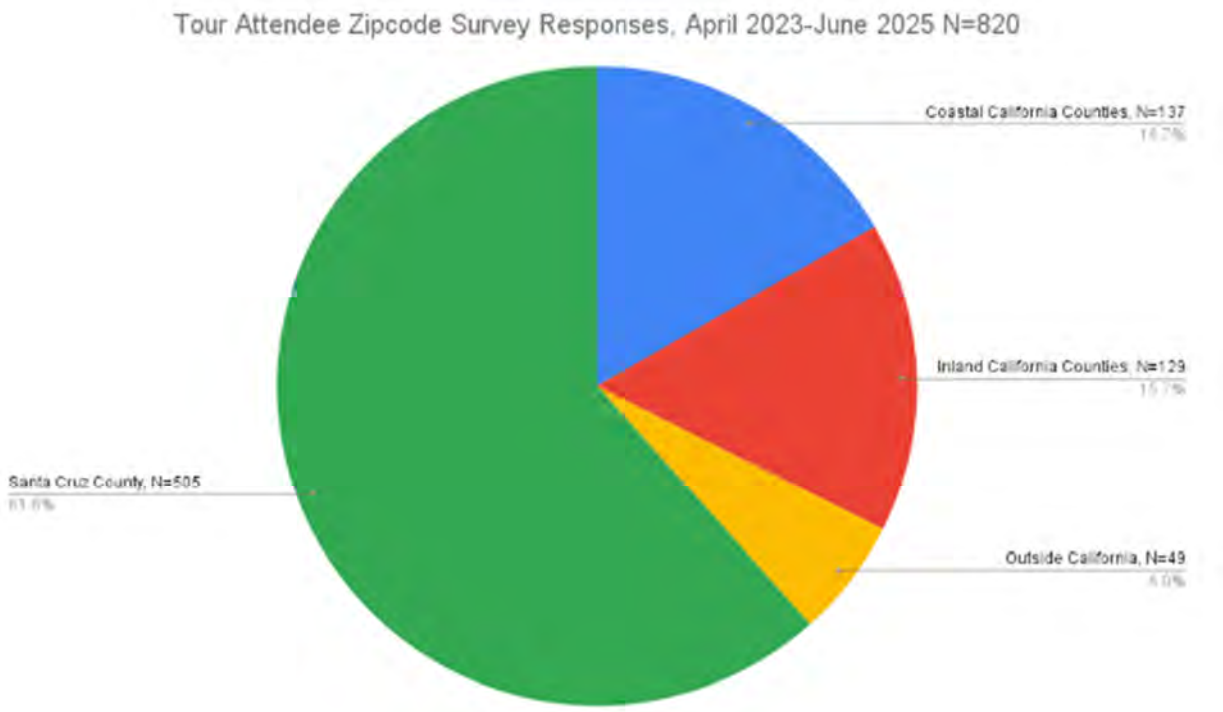


Figure 3. Participant zip code survey results for the free beach tours from April 2023 – June 2025 (N=820). Over 95% of free beach tour participants were from California. Approximately 60% of participants were from Santa Cruz County. Approximately 17% of participants were from other coastal California communities. Approximately16% were from inland California communities.

The success and lessons learned from the special conditions strategies will be discussed with Commission staff during development of the next 5-year beach access management plan, for Seymour Center staff to focus their limited resources on activities that drive the most free beach tour participation.

Condition 3.

BEACH TOUR SIGNS

UC Santa Cruz will continue to implement the Beach Tour Sign Plan that was previously-approved by the Executive Director under NOID 9 where such Plan has provided for installation of signage outside of the Seymour Marine Discovery Center and inside at its front desk, at Campus overlooks, and at other appropriate public access locations on the Marine Science Campus that describe free beach tour availability, including "day of" signs for each day beach tours are offered to ensure maximum notice is provided. All such signs shall continue to be sited and designed to be visually compatible with the area, consistent with the Campus sign program (and CLRDP sign requirements) and continue to provide clear

information in a way that minimizes public view impacts. UC Santa Cruz shall continue to implement the approved Beach Tour Sign Plan from NOID 9.

Implementation Report

Information on the free beach tours was displayed "day of" on large sign in the front window of the Seymour Center and at the public admissions counter. Admissions counter signage will continue to include the brown and white footprints on wave logo, and include the following language "Free Younger Lagoon Reserve Beach Tours Today" (Figures 5, 8, and 9). Signage will continue to be displayed at the information kiosk outside (Figure 7) of the Seymour Center and at Overlooks A-F (Figures 10-16).

Note, Overlook B was renamed Terrace Point Overlook, as shown on a new coastal access sign installed as a condition of Overlook B Path Repair and Replacement (SCZ-NOID-0004-19) (Figure 4).

Figure 4. Terrace Point Overlook coastal access sign design.

Overlooks, admissions counter, and kiosk signage includes the brown and white footprints on wave logo, and include the following language "Free Younger Lagoon Reserve Beach Tours, Call (831) 459-3800" (Figure 4).

Figure 5. "Day of" sign design.

Figure 6. Overlooks and kiosk sign design.

Figure 7. Signage installed at Seymour Center information kiosk (photo taken pre-pandemic).

Figure 8. Signage installed at Seymour Center front window.

Figure 9. Signage installed at the Seymour Center admissions desk.

Figure 10. Signage installed at Overlook A.

Figure 11. Signage installed at Overlook A (close-up).

Figure 12. Signage installed at Overlook B (Terrace Point).

Figure 13. Signage installed at Overlook C.

Figure 14. Signage installed at Overlook D.

Figure 15. Signage installed at Overlook E.

Figure 16. Signage installed at Overlook F.

Condition 4.

BEACH TOUR AVAILABILITY AND MONITORING

UC Santa Cruz shall offer at least four beach tours per month (of which at least one per month is a weekday tour and at least two per month are weekend tours) from March 1st through September 30th each year and shall provide at least two beach tours per month (of which at least one per month is a weekday tour and at least one per month is a weekend tour) otherwise (totaling a minimum of 38 total beach tours per year). UC Santa Cruz may limit the number of beach tour participants to 18 persons per tour, but this number may be exceeded per tour on a case-by-case basis, and beach tours shall not require any minimum number of participants to be provided (i.e., if at least one person signs up, the tour shall be provided). UC Santa Cruz shall document the date/time and number of participants for each beach tour, as well as the number of tour requests that are denied due to lack of tour availability or because tours are fully booked (see also Condition 1).

At least every six months (i.e., by June 30 and December 31 of each year), UC Santa Cruz shall submit two copies of a Beach Tour Monitoring Report for Executive Director review and approval, where the Report shall, at a minimum, provide information regarding compliance with these conditions of approval, including a section identifying UC Santa Cruz's activities under the approved updated Beach Tour Outreach Plan (see Condition 2) and which shall include specific information regarding the dates that each advertisement for beach tours was placed in each venue/media/social media outlet, as well as the required information described in the previous paragraph. Each such Monitoring Report shall include a section that identifies recommendations about whether user data suggests that beach tours should be increased in terms of frequency of tours and/or number of tour attendees, or otherwise modified to better respond to user demand, including the potential to offer a more limited beach area tour (e.g., designed to allow participants to access just the sandy beach area itself in a shorter amount of time) as a means of offsetting demand. Each Monitoring Report shall also include a section that describes how the beach-lagoon ecosystem has responded to beach tours. This assessment will include data and analysis useful for assessing whether the ecosystem shows any impacts from beach tours. This assessment will be used to help determine if larger tours have any impacts on the YLR ecosystem, its environmental quality, and UC Santa Cruz research opportunities at the site. UC Santa Cruz shall implement any Executive Director-approved recommendations from each Beach Tour Monitoring Report.

Implementation Report

Free beach tours were offered two times per month on select Thursdays and Saturdays from January 1, 2025 through February 28, 2025 and four times per month on select Thursdays and Saturdays from March 1, 2025 through June 30, 2025. Tours will continue to be offered at least four times per month (at least one on a weekday and two on a weekend tours) from March 1st through September 30th each year, and will be offered at least two times per month (at least one on a weekday and one on a weekend) for the remainder of the year (a minimum of 38 total beach tours per year). Beach tour participants were limited to 18 persons per tour, but this number may be exceeded per tour on a case by case basis, and beach tours did not require any minimum number of participants to be provided (i.e., if at least one person signs up, the tour is provided). UC Santa Cruz has documented the date/time and number of participants for each beach tour, as well as the number of tour requests that are denied due to lack of tour availability or because tours are fully booked (see also Condition 1). In addition, tour participants were surveyed to determine how they heard about the tour. This information is being tracked with sign-up information (see Conditions 1 and 2).

At least every six months (i.e., by June 30th and December 31st each year), UC Santa Cruz will submit two copies of a Beach Tour Monitoring Report for Executive Director review and approval, where the Report will at a minimum provide information regarding compliance with these conditions of approval, including a section identifying UC Santa Cruz's activities under the approved updated Beach Tour Outreach Plan (see Condition 2), as well as the required information described in the previous paragraph and Condition 4 above. This is the ninth such report under this implementation plan and has been submitted by June 30, 2025.

A total of 20 free beach tours (207 participants) were offered during this reporting period (See Appendix 1). Participants were limited to 18 persons per tour on all but two tours and all tours had at least one participant. Five of the tours that went out included walk-in / "day-of" participants. Thirteen tours were overbooked during the reporting period. No tours were overbooked during the same reporting period in 2024, while five tours were overbooked tours during the same reporting period in 2023. Since the program restarted, demand has fluctuated, but the number of annual beach tour participants has far exceeded pre-pandemic levels. All participants who are unable to book a tour on their preferred date are offered slots on their preferred date as cancelations arise - as well as the opportunity to book an alternate date. Whenever possible participants who are waitlisted are accommodated on an alternate date.

In comparison, UC Santa Cruz offered 18 beach tours (129 participants) during the same reporting period in 2018 (Appendix 2; pre special conditions). Four tours did not go out due to lack of sign-ups. None of the tours that went out in the same reporting period of 2018 included walk-in / “day-of” participants. No tours were overbooked during the same reporting period in 2018.

Although not required by the special conditions, in addition to tracking user data, UC Santa Cruz also collected data on the biological impacts of the tours. Beginning on April 14, 2019, Younger Lagoon Reserve staff surveyed the beach for birds prior to tours, and accompanied tours to document impacts to avian wildlife on the beach. Staff observed birds flushing (startled into sudden flight) from the wet sandy beach, beach dunes, coastal stack, and lagoon in response to over 70% of the tours they attended (see Appendix 3). The average number of avian species present post-tour was significantly less than the average number of avian species pre-tour (p<=.0001, paired t-test; See Figure 17). Flushing can have negative impacts on birds as they are forced to abandon resting, foraging, or nesting sites.

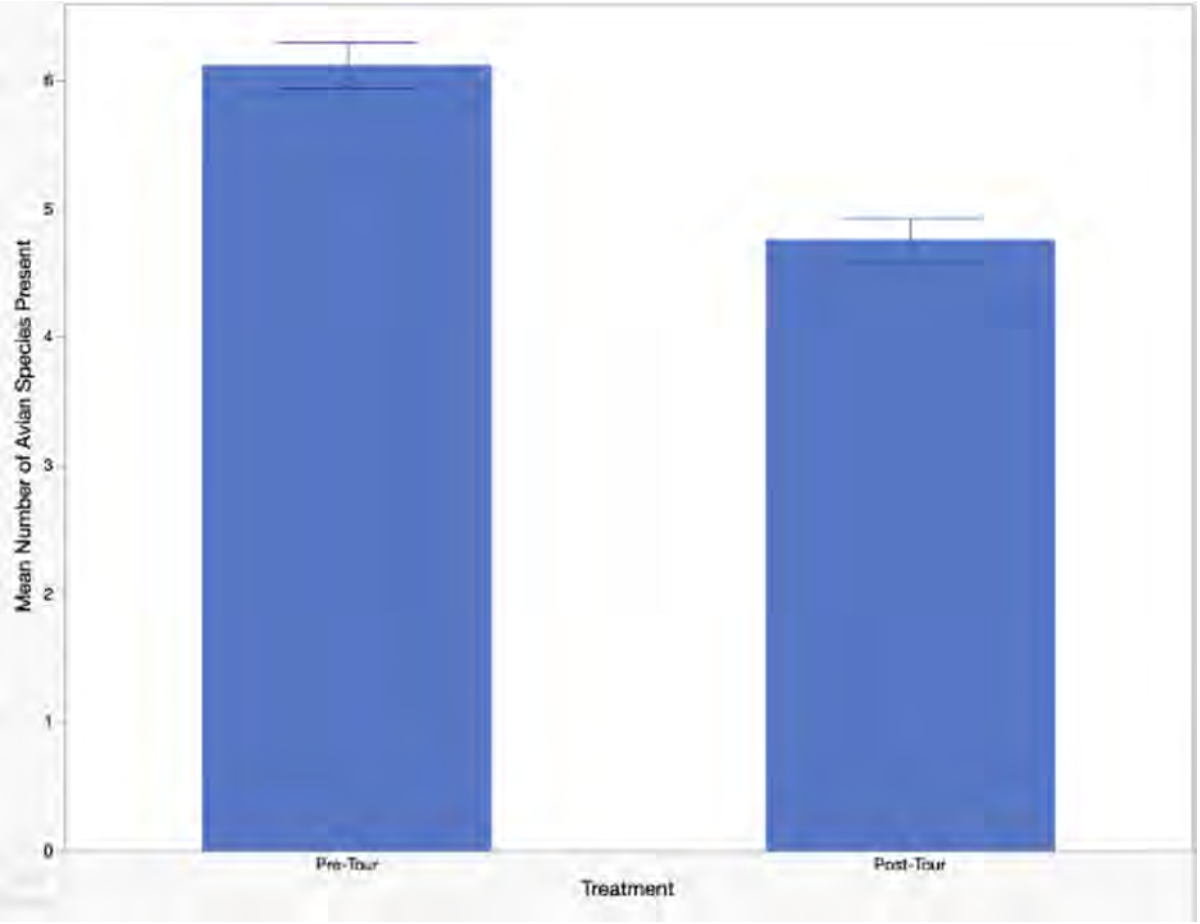


Figure 17. Effect of tours on avian species (N=149). Error bars indicate standard error. The average number of avian species present pre-tour was 6.12 +/- 2.16 (+/-sd) (SE=0.18). The average number of avian species present post-tour was 4.75 +/- 2.06 (+/- sd) (SE=0.17). The average number of avian species

present post-tour was significantly less than the average number of avian species pre-tour (p=<.0001, paired t-test).

Recommendations

Although only in place for seven years and temporarily suspended for nearly two years due to COVID-19 impacts, the beach tours as specified by UC Santa Cruz's NOIDs 9 (18-1) and 12 (20-1) special conditions appear to be meeting user demand. Total tour attendance during the reporting period covered by this report (January1, 2025 – June 30, 2025) was approximately 12% higher than tour attendance during the same time period in 2024, approximately 40% higher than tour attendance during the same time period in 2023, and more than double the tour attendance during the same time period in 2019 and 2018.

During the first 12 months after the Seymour Center reopened after the pandemic, 180 participants were waitlisted. During this reporting period, 59 participants were waitlisted. All waitlisted guests are offered the opportunity to book alternative dates and are contacted in order if a spot on the tour for which they are waitlisted becomes available. Whenever possible participants who are waitlisted are accommodated on an alternate date. Although tour demand has continued to be higher than pre-COVID attendance levels, UC Santa Cruz anticipates the number and volume of beach tour waitlists may continue to diminish as the Seymour Center continues to offer and promote other facility tours, both indoor and outdoor.

The documented negative biological impacts to avian wildlife described above, along with ongoing quarterly beach monitoring efforts indicate that open and unsupervised access to the beach would result in the loss of the unique ecological characteristics of the site, reduce its effectiveness as a research area for scientific study, and likely have a negative impact on sensitive and protected species (See 2009-2010, 2010-2011, 2011-2012, 2012-2013, 2013-2014, 2014-2015, 2015-2016, 2016-2017, 2017-2018, 2018-2019, 2019-2020, 2020-2021, 2021-2022, and 2022-2023 Annual Reports).

UC Santa Cruz recommends the balance between resource protection of the beach and lagoon area – all of which are considered Environmentally Sensitive Habitat Area (ESHA) or ESHA buffer by the Commission, and public access continue to be carefully monitored, evaluated and managed. Although similar in many ways to other local pocket beaches, Younger Lagoon beach supports a unique assemblage of flora and fauna, including rare and endangered species and requires a public access approach unique to continued protection of these coastal resources. As part of the UC Natural Reserve System, Younger Lagoon Reserve supports the UC mission of education, research and public service, acts as a protected living laboratory and outdoor classroom and is managed in trust for the people of the State of California.

Condition 5.

BEACH ACCESS MANAGEMENT PLAN DURATION

This approval for UC Santa Cruz's public beach access management plan at Younger Lagoon Beach shall be effective through December 31, 2025. UC Santa Cruz shall submit a complete NOID, consistent with all CLRDP requirements, to implement its next public beach access management plan at Younger Lagoon Beach (for the period from January 1, 2026 to December 31, 2030) no later than July 1, 2025. Such a complete NOID shall, at a minimum, summarize the results of the Beach Tour Monitoring Reports (see Condition 4), and shall identify the manner in which UC Santa Cruz's proposed management plan responds to such data, including with respect to opportunities to increase public access to the beach area when considered in light of potential impacts to UC Santa Cruz research and coastal resources. If such a complete NOID has not been submitted by July 1, 2025, then UC Santa Cruz shall allow supervised (via beach and trail monitors only) general public access to Younger Lagoon Beach during daylight hours (i.e., one hour-before sunrise to one-hour after sunset) until such NOID has been submitted.

Implementation Report

UC Santa Cruz will submit a complete NOID, consistent with all CLRDP requirements, to implement its next public beach access management plan at Younger Lagoon Beach (for the period from January 1, 2026 to December 31, 2030) no later than July 1, 2025.

Appendix 1. Tour Data January 1, 2025 – June 30, 2025

Tour Date	Day	Participants	Walk in	Reservation	No Show	Denial / Wait list
1/9/25*	Thursday	16	2	17	3	4
1/11/25*	Saturday	13	0	17	4	5
2/6/25*	Thursday	3	0	8	5	2
2/8/25*	Saturday	14	0	16	2	7
3/6/25	Thursday	10	0	12	2	0
3/8/25*	Saturday	14	0	18	4	2
3/20/25	Thursday	6	0	7	1	0
3/22/25*	Saturday	12	1	16	5	1
4/3/25	Thursday	6	0	7	1	0
4/12/25*	Saturday	5	0	9	4	3
4/17/25	Thursday	8	0	9	1	0
4/26/25	Saturday	8	1	14	7	0
5/1/25	Thursday	3	0	10	7	0
5/10/25*	Saturday	11	0	12	1	5
5/15/25*	Thursday	20	3	18	1	2
5/24/25*	Saturday	10	0	18	8	6
6/5/25*	Thursday	13	4	13	4	7
6/12/25*	Thursday	7	0	17	10	6
6/14/25*	Saturday	9	0	18	9	5
6/21/25*	Saturday	19	4	18	3	4
Jan-June 2025 Total	**-**	**207**	**15**	**274**	**82**	**59**

*1/9/25, 1/11/25, 2/6/25, 2/8/25, 3/8/25, 3/22/25, 4/12/25, 5/10/25, 5/15/25, 5/24/25, 6/5/25, 6/12/25, 6/14/25, and 6/21/25 - Waitlisted participants signed up online for tours that were already full before other participants cancelled or no-showed. All waitlisted participants offered slots as cancellations occur and the opportunity to book an alternate date.

Appendix 1 cont. Tour Data July 1, 2024 – December 31, 2024

Tour Date	Day	Participants	Walk in	Reservation	No Show	Denial / Wait list
7/4/24	Thursday	6	0	15	9	0
7/13/24	Saturday	13	4	17	8	0
7/18/24	Thursday	11	3	17	9	0
7/27/24	Saturday	12	0	18	6	0
8/1/24	Thursday	12	0	18	6	0
8/10/24	Saturday	7	0	14	7	0
8/15/24	Thursday	10	1	15	6	0
8/24/24	Saturday	7	0	14	7	0
9/5/24	Thursday	1	1	4	4	0
9/14/24	Saturday	16	6	12	2	0
9/19/24	Thursday	1	1	0	0	0
9/28/24	Saturday	9	0	16	7	0
10/3/24	Thursday	8	0	10	2	0
10/12/24*	Saturday	12	0	18	6	2
11/7/24	Thursday	9	0	12	3	0
11/9/24*	Saturday	12	0	18	6	1
12/5/24	Thursday	15	0	18	3	0
12/14/24	Saturday	5	0	13	8	0

*10/12/24 & 11/9/24 – Denial due to overdemand; participants made alternate booking.

Appendix 1 cont. Tour Data January 1, 2024 – June 30, 2024

Tour Date	Day	Participants	Walk in	Reservation	No Show	Denial / Wait list
1/4/24	Thursday	7	0	9	2	0
1/13/24	Saturday	9	0	18	9	0
2/1/24	Thursday	9	1	11	3	0
2/10/24	Saturday	6	1	9	4	0
3/7/24	Thursday	12	1	18	7	0
3/9/24	Saturday	13	0	18	5	0
3/21/24	Thursday	15	0	15	0	0
3/23/24	Saturday	7	1	15	9	0
4/4/24	Thursday	11	0	16	5	0
4/13/24	Saturday	2	0	14	12	0
4/18/24	Thursday	2	0	6	4	0
4/27/24	Saturday	14	1	18	5	0
5/2/24	Thursday	1	0	5	4	0
5/11/24	Saturday	7	0	11	4	0
5/16/24	Thursday	0	0	0	0	0
5/25/24	Saturday	18	5	15	2	0
6/6/24	Thursday	18	5	15	2	0
6/8/24	Saturday	6	0	11	5	0
6/20/24	Thursday	10	2	13	5	0
6/22/24	Saturday	17	0	18	1	0
2024 Total	**-**	**350**	**33**	**504**	**187**	**3**

Appendix 1 (cont.). Tour Data July 1, 2023 – December 31, 2023

Tour Date	Day	Participants	Walk in	Reservation	No Show	Denial / Wait list
7/6/23	Thursday	6	0	18	12	0
7/8/23*	Saturday	4	1	18	15	1
7/20/23	Thursday	13	1	18	6	0
7/22/23	Saturday	14	0	18	4	0
8/3/23	Thursday	7	0	18	11	0
8/12/23	Saturday	12	1	17	6	0
8/17/23	Thursday	18	2	18	2	0
8/26/23	Saturday	6	5	11	10	0
9/7/23	Thursday	18	0	18	0	0
9/9/23	Saturday	18	2	16	2	0
9/21/23	Thursday	7	2	7	2	0
9/23/23	Saturday	7	0	12	5	0
10/5/23	Thursday	5	1	0	2	0
10/14/23	Saturday	9	0	18	9	0
11/2/23	Thursday	16	4	16	4	0
11/11/23**	Saturday	29	14	18	3	0
12/7/23	Thursday	4	0	18	14	0
12/9/23	Saturday	11	0	18	7	0

*7/8/23 – Denial due to overdemand; participants made alternate booking.
**11/11/23 – Tour overbooked due to confusion surrounding UC Santa Cruz Events calendar listing; all participants accommodated same day on two concurrent tours.

Appendix 1 (cont). Tour Data January 1, 2023 – June 30, 2023

Tour Date	Day	Participants	Walk in	Reservation	No Show	Denial / Wait list
1/5/23*	Thursday	0	0	11	0	0
1/14/23*	Saturday	0	0	14	0	0
2/2/23	Thursday	5	0	5	0	0
2/11/23	Saturday	1	0	12	11	0
3/2/23	Thursday	15	0	16	1	0
3/11/23*	Saturday	0	0	0	0	0
3/16/23**	Thursday	15	7	18	12	2
3/25/23**	Saturday	6	2	18	14	16
4/6/23**	Thursday	10	2	18	12	9
4/8/23	Saturday	16	0	16	0	0
4/20/23	Thursday	14	2	12	3	0
4/22/23	Saturday	10	0	10	0	0
5/4/23	Thursday	10	2	17	9	0
5/13/23**	Saturday	11	4	18	12	11
5/18/23**	Thursday	2	2	18	18	4
5/27/23	Saturday	6	1	13	8	0
6/01/23	Thursday	8	1	15	8	0
6/10/23	Saturday	13	0	18	5	0
6/15/23	Thursday	13	1	18	6	0
6/24/23	Saturday	16	2	16	2	0
2023 Total	-	375	59	560	235	43

*1/5/23, 1/14/23, and 3/11/23 - Canceled due to weather.

**3/16/23, 3/25/23, 4/6/23, 5/13/23, and 5/18/23 - Denial due to overdemand; participants made alternate bookings.

Appendix 1 (cont). Tour Data July 1, 2022 – December 31, 2022

Tour Date	Day	Participants	Walk in	Reservation	No Show	Denial / Wait list
7/7/22*	Thursday	15	0	18	3	15
7/9/22*	Saturday	15	0	17	2	6
7/21/22**	Thursday	15	0	18	3	8
7/23/22	Saturday	11	0	17	6	0
8/4/22***	Thursday	17	0	18	1	17
8/13/22***	Saturday	17	9	18	10	8
8/18/22***	Thursday	14	0	18	4	11
8/27/22***	Saturday	18	0	18	0	20
9/1/22***	Thursday	16	2	18	4	5
9/10/22	Saturday	10	0	12	2	0
9/15/22	Thursday	6	0	6	0	0
9/24/22***	Saturday	16	0	18	2	4
10/06/22	Thursday	14	0	15	1	0
10/15/22***	Saturday	13	0	18	5	6
11/3/22***	Thursday	15	0	18	3	1
11/12/22***	Saturday	16	0	18	2	7
12/1/22	Thursday	3	0	11	8	0
12/10/22****	Saturday	-	-	14	-	-

*7/7/22 and 7/7/22 – Denial due to overdemand; participants put on waitlist but were unable to make it in time when there were no-shows. Participants made alternate bookings.
**7/21/22 - Denial due to overdemand; participants put on waitlist and 4 were accommodated when there were advance cancelations. Participants made alternate bookings.
***8/4/22, 8/13/22, 8/18/22, 8/27/22, 9/1/22, 9/24/22, 10/15/22, 11/3/22, 11/12/22, and 12/10/22 - Denial due to overdemand; participants made alternate bookings.
****12/10/22 – Canceled due to weather.

Appendix 1 (cont.). Tour Data January 1, 2022 – June 30, 2022

Tour Date	Day	Participants	Walk in	Reservation	No Show	Denial / Wait list
1/2/22*	Thursday	-	-	-	-	-
1/8/22*	Saturday	-	-	-	-	-
2/3/22*	Thursday	-	-	-	-	-
2/12/22*	Saturday	-	-	-	-	-
3/3/22*	Thursday	-	-	-	-	-
3/12/22*	Saturday	-	-	-	-	-
3/17/22*	Thursday	-	-	-	-	-
3/26/22*	Saturday	-	-	-	-	-
4/7/22	Thursday	4	0	4	0	0
4/9/22	Sunday	4	0	4	0	0
4/21/22	Thursday	8	0	8	0	0
4/23/22	Saturday	5	0	5	0	0
5/5/22	Thursday	1	0	7	6	0
5/14/22	Saturday	18	2	16	2	0
5/19/22**	Thursday	11	0	18	7	2
5/28/22***	Saturday	13	4	18	9	3
6/2/22****	Thursday	18	0	18	0	3
6/11/22*****	Saturday	18	5	18	5	10
6/16/22******	Thursday	17	0	18	1	2
6/25/22*******	Soveraturday	10	0	18	8	9
2022 TOTAL	**-**	**358**	**22**	**442**	**94**	**137**

*1/6/22 - 3/26/22 – Canceled due to COVID-19 impacts.
**5/19/22 - Denial due to overdemand; participants accommodated on future date.
***5/28/22 - Denial due to overdemand; three participants signed up for the waitlist as well as a future date. Two of the three walked in on 5/28 and were able to get a spot when others no showed.
****6/2/22 - Denial due to overdemand; participants accommodated on future date.
*****6/11/22 - Denial due to overdemand; participants accommodated on future date.
******6/16/22 - Denial due to overdemand; participants were directed to the website to sign up for a future date.

*******6/25/22 - Denial due to overdemand; participants were put on the waitlist due to full reservations and were not able to make it in time to join the tour after a larger group no-showed.

Appendix 1 (cont.). Tour Data July 1, 2021 – December 31, 2021

Tour Date	Day	Participants	Walk in	Reservation	No Show	Denial / Wait list
7/1/21*	Thursday	-	-	-	-	-
7/11/21*	Sunday	-	-	-	-	-
7/15/21*	Thursday	-	-	-	-	-
7/25/21*	Sunday	-	-	-	-	-
8/5/21*	Thursday	-	-	-	-	-
8/8/21*	Sunday	-	-	-	-	-
8/19/21*	Thursday	-	-	-	-	-
8/22/21*	Sunday	-	-	-	-	-
9/2/21*	Thursday	-	-	-	-	-
9/12/21*	Sunday	-	-	-	-	-
9/16/21*	Thursday	-	-	-	-	-
9/26/21*	Sunday	-	-	-	-	-
10/7/21*	Thursday	-	-	-	-	-
10/10/21*	Sunday	-	-	-	-	-
11/4/21*	Thursday	-	-	-	-	-
11/14/21*	Sunday	-	-	-	-	-
12/2/21*	Thursday	-	-	-	-	-
12/5/21*	Sunday	-	-	-	-	-

*7/1/21 - 12/5/21 – Canceled due to COVID-19 impacts.

Appendix 1 (cont.). Tour Data January 1, 2021 – June 30, 2021

Tour Date	Day	Participants	Walk in	Reservation	No Show	Denial / Wait list
1/7/21*	Thursday	-	-	-	-	-
1/10/21*	Sunday	-	-	-	-	-
2/4/21*	Thursday	-	-	-	-	-
2/14/21*	Sunday	-	-	-	-	-
3/4/21*	Thursday	-	-	-	-	-
3/14/21*	Sunday	-	-	-	-	-
3/18/21*	Thursday	-	-	-	-	-
3/28/21*	Sunday	-	-	-	-	-
4/1/21*	Thursday	-	-	-	-	-
4/11/21*	Sunday	-	-	-	-	-
4/15/21*	Thursday	-	-	-	-	-
4/25/21*	Sunday	-	-	-	-	-
5/6/21*	Thursday	-	-	-	-	-
5/9/21*	Sunday	-	-	-	-	-
5/20/21*	Thursday	-	-	-	-	-
5/23/21*	Sunday	-	-	-	-	-
6/3/21*	Thursday	-	-	-	-	-
6/13/21*	Sunday	-	-	-	-	-
6/17/21*	Thursday	-	-	-	-	-
6/27/21*	Sunday	-	-	-	-	-
2021 TOTAL	-	-	-	-	-	-

*1/7/21 - 6/27/21 – Canceled due to COVID-19 impacts.

Appendix 1 (cont.). Tour Data July 1, 2020 – December 31, 2020

Tour Date	Day	Participants	Walk in	Reservation	No Show	Denial / Wait list
7/2/20*	Thursday	-	-	-	-	-
7/12/20*	Sunday	-	-	-	-	-
7/16/20*	Thursday	-	-	-	-	-
7/26/20*	Sunday	-	-	-	-	-
8/6/20*	Thursday	-	-	-	-	-
8/9/20*	Sunday	-	-	-	-	-
8/20/20*	Thursday	-	-	-	-	-
8/23/20*	Sunday	-	-	-	-	-
9/3/20*	Thursday	-	-	-	-	-
9/13/20*	Sunday	-	-	-	-	-
9/17/20*	Thursday	-	-	-	-	-
9/27/20*	Sunday	-	-	-	-	-
10/1/20*	Thursday	-	-	-	-	-
10/11/20*	Sunday	-	-	-	-	-
11/5/20*	Thursday	-	-	-	-	-
11/8/20*	Sunday	-	-	-	-	-
12/3/20*	Thursday	-	-	-	-	-
12/6/20*	Sunday	-	-	-	-	-

*7/2/20 - 12/6/20 – Canceled due to COVID-19 impacts.

Appendix 1 (cont.). Tour Data January 1, 2020 – June 30, 2020

Tour Date	Day	Participants	Walk in	Reservation	No Show	Denial / Wait list
1/2/20	Thursday	15	4	20	9	0
1/12/20	Sunday	13	1	18	6	0
2/6/20	Thursday	9	0	18	9	0
2/9/20	Sunday	4	0	5	1	0
3/5/20	Thursday	8	0	8	0	0
3/8/20	Sunday	11	0	14	3	0
3/19/20*	Thursday	-	-	-	-	-
3/22/20*	Sunday	-	-	-	-	-
4/2/20*	Thursday	-	-	-	-	-
4/5/20*	Sunday	-	-	-	-	-
4/16/20*	Thursday	-	-	-	-	-
4/26/20*	Sunday	-	-	-	-	-
5/7/20*	Thursday	-	-	-	-	-
5/10/20*	Sunday	-	-	-	-	-
5/21/20*	Thursday	-	-	-	-	-
5/24/20*	Sunday	-	-	-	-	-
6/4/20*	Thursday	-	-	-	-	-
6/14/20*	Sunday	-	-	-	-	-
6/18/20*	Thursday	-	-	-	-	-
6/28/20*	Sunday	-	-	-	-	-
2020 TOTAL	**-**	**60**	**5**	**83**	**28**	**0**

*3/19/20 - 6/28/20 – Canceled due to COVID-19 impacts.

Appendix 1 (cont.). Tour Data January 1, 2019 – June 30, 2019

Tour Date	Day	Participants	Walk in	Reservation	No Show	Denial / Wait list
1/3/19	Thursday	2	2	0	0	0
1/13/19	Sunday	7	0	7	0	0
2/7/19	Thursday	3	0	3	0	0
2/10/19	Sunday	6	1	5	0	0
3/3/19	Sunday	10	3	7	0	0
3/719	Thursday	3	0	4	1	0
3/1019	Sunday	9	6	3	0	0
3/2119	Thursday	3	0	4	1	0
4/4/19	Thursday	10	6	4	0	0
4/7/19	Sunday	9	4	5	0	0
4/14/19	Sunday	9	2	11	4	0
4/18/19	Thursday	5	1	5	1	0
5/2/19	Thursday	1	0	1	0	0
5/5/19*	Sunday	0	0	0	0	0
5/12/19	Sunday	2	0	2	0	0
5/16/19	Thursday	1	0	1	0	0
6/2/19	Sunday	3	0	3	0	0
6/6/19	Thursday	1	1	0	0	0
6/9/19**	Sunday	16	4	14	0	2
6/20/19	Thursday	3	1	2	0	0

*5/5/19 - No tour; no participants.

**6/9/19 - Denial due to overdemand; participants accommodated on a Seymour Center daily tour, which included vistas of the lagoon and beach, later that day.

Appendix 1 (cont.). Tour Data July 1, 2019 – December 31, 2019

Tour Date	Day	Participants	Walk in	Reservation	No Show	Denial / Wait list
7/7/19	Sunday	14	4	13	3	0
7/11/19	Thursday	14	2	12	0	0
7/14/19	Thursday	17	5	18	6	0
7/18/19	Thursday	12	2	13	3	0
8/1/19	Thursday	10	0	18	8	0
8/4/19*	Sunday	14	0	21	1	6
8/11/19	Sunday	10	0	10	0	0
8/15/19	Thursday	5	0	5	0	0
9/1/19	Sunday	13	0	14	1	0
9/5/19	Thursday	6	0	6	0	0
9/8/19	Sunday	4	0	4	0	0
9/19/19	Thursday	2	0	2	0	0
10/3/19	Thursday	7	2	5	0	0
10/13/19	Sunday	9	0	9	0	0
11/7/19	Thursday	6	0	6	0	0
11/10/19	Sunday	8	0	13	5	0
12/1/19	Sunday	2	0	11	9	0
12/9/19	Thursday	9	0	9	0	0
2019 TOTAL	**-**	**265**	**46**	**270**	**43**	**8**
2019-2025 GRAND TOTAL	**-**	**1,615**	**180**	**2,133**	**669**	**250**

*8/4/19 - Denial due to overdemand. Participants offered a Seymour Center daily tour, which includes vistas of the lagoon and beach.

Appendix 2. Tour Data January 1, 2018 – June 30, 2018 (pre special conditions)

Tour Date	Day	Participants	Walk in	Reservation	No Show
1/4/18	Thursday	3	1	2	0
1/14/18	Sunday	3	0	3	0
2/1/18	Thursday	6	0	6	0
2/11/18	Sunday	2	1	1	0
3/1/18*	Thursday	1	0	1	0
3/4/18	Sunday	2	0	2	0
3/11/18	Sunday	6	1	5	0
3/15/18	Thursday	2	2	0	0
4/5/18	Thursday	11	0	11	0
4/8/18	Sunday	2	0	2	0
4/19/18	Thursday	8	0	8	0
4/22/18	Sunday	2	0	3	1
5/3/18	Thursday	11	0	11	0
5/6/18	Sunday	7	0	7	0
5/13/18	Sunday	2	0	2	0
5/17/18**	Thursday	0	0	0	0
6/3/18	Sunday	0	0	0	0
6/7/18	Thursday	10	0	11	1
6/10/18	Sunday	7	0	7	0
6/21/18	Thursday	10	0	13	3

*3/1/18 – Canceled due to weather.
**5/17/18 – Canceled; no sign-ups.
***6/3/18 – Canceled; no sign-ups.

Appendix 2 (cont.). Tour Data July 1, 2018 – December 31, 2018 (pre special conditions)

Tour Date	Day	Participants	Walk in	Reservation	No Show
7/1/18	Sunday	9	0	11	2
7/5/18	Thursday	13	0	13	0
7/8/18	Sunday	9	0	10	1
7/19/18*	Sunday	0	0	0	0
8/2/18**	Thursday	0	0	0	0
8/5/18	Sunday	13	0	15	2
8/12/18	Sunday	2	0	2	0
8/16/18	Thursday	9	0	9	0
9/2/18	Sunday	18	0	18	0
9/6/18	Thursday	6	0	6	0
9/9/18	Sunday	5	0	5	0
9/27/28	Thursday	14	0	15	1
10/4/18	Thursday	10	0	12	2
10/14/18	Sunday	8	0	8	0
11/1/18***	Thursday	0	0	0	0
11/11/18	Sunday	7	0	7	0
12/2/18	Sunday	6	0	8	2
12/6/18****	Thursday	0	0	0	0
2018 TOTAL	**-**	**224**	**5**	**234**	**15**

*7/19/18 – Canceled; no sign-ups.
**8/2/18 – Canceled; no sign-ups.
***11/1/18– Canceled; no sign-ups.
****12/6/18– Canceled; no sign-ups.

Appendix 3 cont. Avian Wildlife Impact Data, July 1, 2024 – December 31, 2024

Tour Date	Day	Species Present	Species Flushed
1/9/25	Thursday	SNEG, MAGO, BRCO, WEGU, BRPE, LBCU, BLPH, KILL, SNPL	WEGU, KILL, SNPL
1/11/25	Saturday	BRCO, WEGU, BLOY, SNEG, WHIM, BLPH, BRPE, GREG, SAPH, CAGO, LBCU, KILL, SAND, KIFI, BEKI	LBCU
2/6/25	Thursday	LBCU, WHIM, BEKI, DOCR, BRCO, WEGU, SNPL, SNEG, MALL, WSPL	-
2/8/25	Saturday	CAGU, BRCO, CAGO, WHIM, LBCU	CAGO
3/6/25	Thursday	BLPH, CAGO, BRCO, WEGU, CORA, SNEG, KILL	CAGO
3/8/25	Saturday	WHIM, WEGU, BRCO, SNEG, SOSP, CAGO, KILL, BLPH, BLOY	WHIM
3/20/25	Thursday	WHIM, BRCO, CAGO, WEGU, BLPH, BEKI	WHIM, WEGU, BEKI
3/22/25	Saturday	LBCU, WEGU, MALL, CAGO, BRCO, KILL, BLPH, WHIM	CAGO, KILL
4/3/25	Thursday	SNEG, CAGO, WEGU, BRCO, LBDO, MALL, KILL, WHIM	SNEG, WEGU, LBDO
4/12/25	Saturday	WHIM, WEGU, BRCO, BLPH	-
4/17/25	Thursday	WHIM, SNEG, WEGU, CAGO, BRCO, PIGU, KILL	SNEG, WEGU
4/26/25	Saturday	CAGO, WEGU, PIGU, BRCO, BLPH, WHIM, SNEG, KILL	WHIM, SNEG
5/1/25	Thursday	MALL, WEGU, WHIM, BLPH, PIGU, BRCO, PECO, BRPE	MALL, WEGU, WHIM, PIGU
5/10/25	Saturday	WEGU, MALL, SNEG, CAGO, GREG, WHIM, BLOY	WHIM
5/15/25	Thursday	AMCR, WEGU, MALL, CAGO, BLOY	BLOY
5/24/25	Saturday	PIGU, BLOY, WEGU, MALL, CAGO	CAGO
6/5/25	Thursday	WEGU, PIGU, CLSW, BLOY, CAGO, BLPH	WEGU
6/12/25*	Thursday	-	-
6/14/25	Saturday	PIGU, GREG, BLPH, WEGU	WEGU
6/21/25	Saturday	WEGU, PIGU, CLSW, BLOY, CAGO, BLPH	WEGU, KILL, SNPL

*6/12/25– No biological data collected.

AMCO – American coot, **AMCR** – American crow, **AMRO** – American robin, **AMWI** – American whimbrel, **BARS** – Barn swallow, **BEWR** -Bewick's wren, **BHCO** – Brown-headed cowbird, **BLOY** – Black oystercatcher, **BLPH** – Black phoebe, **BRCO** – Brand's cormorant, **BRAN** – Brant, **BRBL** – Brewer's blackbird, **BRPE** – Brown pelican, **CAGU** – California Gull, **CCGO** – Canada goose, **CLSW** – Cliff swallow, **CORA** – Common raven, **DCCO** – Double-crested cormorant, **GBHE** – Great blue heron, **GREG** – Great egret, **GRHE** – Green heron, **HEEG** - Heermann's Gull, **KILL** – Killdeer, **LBCU** – Long-billed curlew, **MALL** – Mallard, **NOHA** – Northern harrier, **NOMO** – Northern mockingbird, **OSPR** – Osprey, **PECO** – Pelagic cormorant, **PIGU** – Pigeon guillemot, **RNPH** – Red-necked phalarope, **RSHA** – Red-shouldered hawk, **RWBL** – Red-winged blackbird, **SAND** – Sanderling, **SAPH** – Say's phoebe, **SNEG** – Snowy Egret, **SOSP** – Song sparrow, **TUVU** – Turkey vulture, **UNKN** – Unknown avian species, **WEGU** – Western gull, **WHIM** – Whimbrel, **WESA** – Western sandpipe

Appendix 3 (cont). Avian Wildlife Impact Data, July 1, 2024 – December 31, 2024

Tour Date	Day	Species Present	Species Flushed
7/4/24	Thursday	-	-
7/13/24	Saturday	KILL, LBCU, PIGU, SEPL, WHIM	KILL
7/18/24	Thursday	-	-
7/27/24	Saturday	BASW, BBPL, BLPH, CLSW, HEEG, KILL, WHIM	KILL
8/1/24	Thursday	BASW, BBPL, CLSW, LBCU, SNEG, WHIM	BBPL, LBCU, SNEG, WHIM
8/10/24	Saturday	BASW, BLPH, KILL, PECO, PIGU, SNEG, WHIM, WILL	KILL, SNEG
8/15/24	Thursday	BLPH, GBHE, GREG, KILL, LBCU, MALL, PECO, SNEG, WEGU, WHIM	BLPH, KILL, LBCU, SNEG
8/24/24	Saturday	BLPH, HOFI, KILL, LBCU, MALL, PECO, SOSP, WHIM	HOFI, KILL, MALL
9/5/24	Thursday	BLPH, BRCO, KILL, LBCU, MAGO, SNEG, WEGU, WESA, WHIM	WHIM, LBCU, SNEG, KILL
9/14/24	Saturday	BASW, BLPH, KILL, BRCO, WEGU, WHIM,	KILL
9/19/24	Thursday	BBPL, BRCO, BLPH, GREG, KILL, SNEG, WEGU, WHIM	BBPL, WHIM
9/28/24	Saturday	BLPH, BLPL, BLTU, BRCO, KILL, OSPR, SAPH, WHIM, WEGU	BLPH, KILL
10/3/24	Thursday	BLPH, BRCO, KILL, MALL, SNEG, SOSP, WHIM	SNEG, SOSP
10/12/24*	Saturday	BLPH, BRCO, BRPE, BLPL, CAGO, CORA, KILL, SAPH, SOSP, WEGU, WHIM	KILL, WHIM
11/7/24	Thursday	BLPH, BRCO, BRPE, KILL, LBCU, MAGO, TUVU	TUVU
11/9/24*	Saturday	BRCO, BRPE, KILL, SAPH, WEGU, WHIM	KILL, WHIM
12/5/24	Thursday	BLPH, BRCO, BRPE, KILL, LBCU, WHIM	BLPH, KILL, WHIM
12/14/24	Saturday	AMCR, BLPL, BLTU, BRCO, CORA, SAPH, WEGU, YRWA,	BLPH, SAPH

*7/4/24 and 7/18//24 – No biological data collected.

AMCO – American coot, **AMCR** – American crow, **AMRO** – American robin, **AMWI** – American whimbrel, **BARS** – Barn swallow, **BEWR** -Bewick's wren, **BHCO** – Brown-headed cowbird, **BLOY** – Black oystercatcher, **BLPH** – Black phoebe, **BRCO** – Brand's cormorant, **BRAN** – Brant, **BRBL** – Brewer's blackbird, **BRPE** – Brown pelican, **CAGU** – California Gull, **CCGO** – Canada goose, **CLSW** – Cliff swallow, **CORA** – Common raven, **DCCO** – Double-crested cormorant, **GBHE** – Great blue heron, **GREG** – Great egret, **GRHE** – Green heron, **HEEG** - Heermann's Gull, **KILL** – Killdeer, **LBCU** – Long-billed curlew, **MALL** – Mallard, **NOHA** – Northern harrier, **NOMO** – Northern mockingbird, **OSPR** – Osprey, **PECO** – Pelagic cormorant, **PIGU** – Pigeon guillemot, **RNPH** – Red-necked phalarope, **RSHA** – Red-shouldered hawk, **RWBL** – Red-winged blackbird, **SAND** – Sanderling, **SAPH** – Say's phoebe, **SNEG** – Snowy Egret, **SOSP** – Song sparrow, **TUVU** – Turkey vulture, **UNKN** – Unknown avian species, **WEGU** – Western gull, **WHIM** – Whimbrel, **WESA** – Western sandpipe

Appendix 3 (cont.). Avian Wildlife Impact Data, January 1, 2023 – June 30, 2023

Tour Date	Day	Species Present	Species Flushed
1/4/24*	Thursday	-	-
1/13/24	Saturday	BRCO,MAGO, SNEG, WEGU	MAGO
2/1/24***	Thursday	BLOY, BLPH, BLTU, BRCO, MAGO, PECO, WEGU	-
2/10/24***	Saturday	AMCO, BLPH, BRCO, CAGO, SAND, SNEG, MAGO, WEGU	-
3/7/24	Thursday	BLOY, BRCO, CANG, GREG, KILL, SNEG, WEGU	CANG, KILL, MALL, SNEG
3/9/24***	Saturday	BRCO, CAGO, KILL, MALL, SNEG, SUSC	-
3/21/24**	Thursday	-	-
3/23/24	Saturday	BLOY, BRCO, CAGO, KIFI, MALL, PECA, SNEG, SOSP, WEGU	CAGO, KIFI, SNEG, MALL
4/4/24	Thursday	CAGO, KILL, PECO, SNEG	KILL, SNEG
4/13/24	Saturday	CAGO, KILL, PECO, SNEG	SNEG
4/18/24	Thursday	BRCA, CAGO, GRHE, RBME, WEBL, WEGU	WEBL
4/27/24	Saturday	CAGU, HOFI, KILL, MALL, PECO, PIGU, SNEG, SUSC, WEBL, WEGU	KILL, SUSC
5/2/24	Thursday	BASW, CAGO, CAGU, MALL, SNEG, SUSC	CAGU, SUSC
5/11/24*	Saturday	-	-
5/16/24***	Thursday	CANG, WEGU, MALL	-
5/25/24	Saturday	BLOY, WEGU, BOGU, KILL, RNPH	KILL
6/6/24	Thursday	CAGU, CLSW, KILL, SNEG, KILL	KILL
6/8/24	Saturday	BLPH, CAGO, CLSW, GBHE, KILL, SNEG, WEBL	GBHE, KILL
6/20/24	Thursday	BASW, CAGO, KILL, MALL, WEGU	KILL
6/22/24	Saturday	CAGO, CLSW, KILL, MAGO, CORO, WEGU	KILL

*1/4/24 and 5/11/24 –No biological data collected.
** 3/21/24 – No birds present.
**2/1/24, 2/10/24, 3/9/24, and 5/16/24 – No birds flushed.

AMCO – American coot, **AMCR** – American crow, **AMRO** – American robin, **AMWI** – American whimbrel, **BARS** – Barn swallow, **BEWR** -Bewick's wren, **BHCO** – Brown-headed cowbird, **BLOY** – Black oystercatcher, **BLPH** – Black phoebe, **BRCO** – Brand's cormorant, **BRAN** – Brant, **BRBL** – Brewer's blackbird, **BRPE** – Brown pelican, **CAGU** – California Gull, **CCGO** – Canada goose, **CLSW** – Cliff swallow, **CORA** – Common raven, **DCCO** – Double-crested cormorant, **GBHE** – Great blue heron, **GREG** – Great egret, **GRHE** – Green heron, **HEEG** - Heermann's Gull, **KILL** – Killdeer, **LBCU** – Long-billed curlew, **MALL** – Mallard, **NOHA** – Northern harrier, **NOMO** – Northern mockingbird, **OSPR** – Osprey, **PECO** – Pelagic cormorant, **PIGU** – Pigeon guillemot, **RNPH** – Red-necked phalarope, **RSHA** – Red-shouldered hawk, **RWBL** – Red-winged blackbird, **SAND** – Sanderling, **SAPH** – Say's phoebe, **SNEG** – Snowy Egret, **SOSP** – Song sparrow, **TUVU** – Turkey vulture, **UNKN** – Unknown avian species, **WEGU** – Western gull, **WHIM** – Whimbrel, **WESA** – Western sandpipe

Appendix 3 (cont.). Avian Wildlife Impact Data, July 1, 2023 – December 31, 2023

Tour Date	Day	Species Present	Species Flushed
7/6/23*	Thursday	BASW, PIGU, WEGU	-
7/8/23*	Saturday	CANG, WEGU	-
7/20/23	Thursday	BASW, PIGU	PIGU
7/22/23	Saturday	BLPH, BRPE, CLSW, LBCU, WEGU, WHIM	WEGU
8/3/23	Thursday	BLPH, DCCO, PIGU, WEGU, WHIM	PIGU, WHIM
8/12/23	Saturday	BLPH, TUVU, PIGU, WEGU, WILL, HEGU, GRHE	GRHE, WILL
8/17/23	Thursday	BRCO, GREG, WEGU, AMCR, SNEG, WHIM	SNEG, WHIM
8/26/23	Saturday	BLEH, BLTU, BRCO, DCCO, HEGU, LBCU, WEGU, WESA	WESA
9/7/23*	Thursday	DCCO, WEGU, WESP, WHIM	-
9/9/23*	Saturday	DCCO, GRYE, HEGU, WESA, WEGU, WHIM	-
9/21/23*	Thursday	BLOY, BRCO, HEGU, WEGU	-
9/23/23	Saturday	BBPL, BRCO, DCCO, HEGU, MAGO, SNEG, WATA, WEGU	BBPL, SNEG, WEGU
10/5/23	Thursday	BRCU, BRCO, KILL, SNEG, MAGO, WEGU	KILL, MAGO
10/14/23*	Saturday	BLOY, BRCO, WEGU,	-
11/2/23*	Thursday	BRCO, WEGU, SNEG, GREG	-
11/11/23	Saturday	SNEG, WHIM, DCCC, BLTS, BLPH, GREG	SNEG
12/7/23	Thursday	AMCO, BLPH, BRCO, OSPR, RTHA, SNEG, TUVU, WEGU,	AMCO, OSPR
12/9/23	Saturday	BLPH, BRCO, DCCO, KILL, UNKN, WEGU	KILL, UNKN

*7/6/23, 7/8/23, 9/7/23, 9/9/23, 9/21/23, 10/14/23, and 11/2/23 – No birds flushed.

AMCO – American coot, **AMCR** – American crow, **AMRO** – American robin, **AMWI** – American whimbrel, **BARS** – Barn swallow, **BEWR** -Bewick's wren, **BHCO** – Brown-headed cowbird, **BLOY** – Black oystercatcher, **BLPH** – Black phoebe, **BRCO** – Brand's cormorant, **BRAN** – Brant, **BRBL** – Brewer's blackbird, **BRPE** – Brown pelican, **CAGU** – California Gull, **CCGO** – Canada goose, **CLSW** – Cliff swallow, **CORA** – Common raven, **DCCO** – Double-crested cormorant, **GBHE** – Great blue heron, **GREG** – Great egret, **GRHE** – Green heron, **HEEG** - Heermann's Gull, **KILL** – Killdeer, **LBCU** – Long-billed curlew, **MALL** – Mallard, **NOHA** – Northern harrier, **NOMO** – Northern mockingbird, **OSPR** – Osprey, **PECO** – Pelagic cormorant, **PIGU** – Pigeon guillemot, **RNPH** – Red-necked phalarope, **RSHA** – Red-shouldered hawk, **RWBL** – Red-winged blackbird, **SAND** – Sanderling, **SAPH** – Say's phoebe, **SNEG** – Snowy Egret, **SOSP** – Song sparrow, **TUVU** – Turkey vulture, **UNKN** – Unknown avian species, **WEGU** – Western gull, **WHIM** – Whimbrel, **WESA** – Western sandpiper

Appendix 3 (cont). Avian Wildlife Impact Data, January 1, 2023 – June 30, 2023

Tour Date	Day	Species Present	Species Flushed
1/5/23*	Thursday	-	-
1/14/23*	Saturday	-	-
2/2/23	Thursday	BLPH, BLOY, CANG, PECO, SAPH, SAND	CANG, SAPH
2/11/23	Saturday	AMOY, BLPH, BRCO, PECO, SAPH, YRWA, WEGU	-
3/2/23	Thursday	BLPH, CAGO, GREG, SAPH, WEGU	SAPH
3/11/23*	Saturday	-	-
3/16/23	Thursday	BLPH, CAGO, SAPH, WEGU	-
3/25/23	Saturday	BLPH, BLOY, CAGU, SNEG	-
4/6/23	Thursday	BRCO, CAGO, DCCO, SNEG, NRWS, WEGU	DCCO
4/8/23	Saturday	WEGU, MALL, BLOY, CAGO, BASW, SOSP, WCSP, BLPH	BLPH
4/20/23	Thursday	RTHA, CANG, BASW, WEGU, SNEG, BLPH, LBCU, MALL	BLPH
4/22/23	Saturday	CANG, GREG, WEGU, MALL, SNEG, CLSW	-
5/4/23	Thursday	BASW, SNEG, WEGU, WHIM	-
5/13/23	Saturday	WEGU, LBCU, SNEG, PECO, CAGO, CLSW, BLPH, BRPE, PIGU	BLPH
5/18/23	Thursday	BLPH, CLSW, DCCO, PIGU, WEGU	DCCO
5/27/23	Saturday	BLPH, PIGU, ROPI, WEGU	BLPH
6/01/23	Thursday	BASW, PIGU, WEGU	BLPH
6/10/23	Saturday	BASW, BLPH, CANG, PIGU, WEGU	-
6/15/23	Thursday	BASW, BLPH, CAGO, WEGU	-
6/24/23	Saturday	CANU, SOSP, TUVU, WEGU	WEGU

*1/5/23, 1/14/23, and 3/11/23 – Canceled due to weather. No biological data collected.

AMCO – American coot, **AMCR** – American crow, **AMRO** – American robin, **AMWI** – American whimbrel, **BARS** – Barn swallow, **BEWR** -Bewick's wren, **BHCO** – Brown-headed cowbird, **BLOY** – Black oystercatcher, **BLPH** – Black phoebe, **BRCO** – Brand's cormorant, **BRAN** – Brant, **BRBL** – Brewer's blackbird, **BRPE** – Brown pelican, **CAGU** – California Gull, **CCGO** – Canada goose, **CLSW** – Cliff swallow, **CORA** – Common raven, **DCCO** – Double-crested cormorant, **GBHE** – Great blue heron, **GREG** – Great egret, **GRHE** – Green heron, **HEEG** - Heermann's Gull, **KILL** – Killdeer, **LBCU** – Long-billed curlew, **MALL** – Mallard, **NOHA** – Northern harrier, **NOMO** – Northern mockingbird, **OSPR** – Osprey, **PECO** – Pelagic cormorant, **PIGU** – Pigeon guillemot, **RNPH** – Red-necked phalarope, **RSHA** – Red-shouldered hawk, **RWBL** – Red-winged blackbird, **SAND** – Sanderling, **SAPH** – Say's phoebe, **SNEG** – Snowy Egret, **SOSP** – Song sparrow, **TUVU** – Turkey vulture, **WEGU** – Western gull, **WHIM** – Whimbrel, **WESA** – Western sandpiper

Appendix 3 (cont.). Avian Wildlife Impact Data, July 1, 2022 – December 31, 2022

Tour Date	Day	Species Present	Species Flushed
7/7/22*	Thursday	BLPH, BRCO, PECO, PIGU, WEGU	-
7/9/22*	Saturday	BLPH, BRCO, DCCO, GBHE, PECO, PIGU, SNEG, WEGU,	-
7/21/22*	Thursday	BLPH, BRCO, WEGU	-
7/23/22*	Saturday	BRCO, BLPH, HEEG, LBCU, WEGU	-
8/4/22	Thursday	BLPH, BRCO, CLSW	BRCO, WEGU
8/13/22*	Saturday	BRCO, BLPH, GREG, LBCU, SNEG, WEGU	-
8/18/22	Thursday	BLPH, BRCO, GBHE, HEEG, WEGU	LBCU, WEGU
8/27/22	Saturday	BRCO, BLPH, SNEG, WEGU, WHIM	GBHE, WEGU
9/1/22*	Thursday	BRCO, DCCO, WEGU	-
9/10/22*	Saturday	BLOY, BLPH, BRCO, PECO, SAND, WEGU, WHIM	-
9/15/22*	Thursday	BLOY, BLPH, BRCO, PECO, WEGU	-
9/24/22	Saturday	BRCO, OSPR, RNPH, SNEG, WEGU, WHIM	OSPR, SNEG, WHIM
10/06/22	Thursday	BLOY, BRCO, WEGU, WHIM	WHIM
10/15/22	Saturday	AMCR, BLPH, BRCO, OSPR, PECO	OSPR
11/3/22	Thursday	AMCR, BLPH, BRCO, SAPH, WEGU	AMCR
11/12/22	Saturday	SNEG, TUVU, BRCO, BEWR	TUVU, BEWR
12/1/22	Thursday	BRCO, PECO, WEGU	WEGU
12/10/22**	Saturday	-	-

*7/7/22, 7/9/22, 7/21/22, 7/23/22, 8/13/22, 9/1/22, 9/10/22, 9/15/22 – No birds flushed.
**12/10/22 – Canceled due to weather. No biological data collected.

AMCO – American coot, **AMCR** – American crow, **AMRO** – American robin, **AMWI** – American whimbrel, **BARS** – Barn swallow, **BEWR** -Bewick's wren, **BHCO** – Brown-headed cowbird, **BLOY** – Black oystercatcher, **BLPH** – Black phoebe, **BRCO** – Brand's cormorant, **BRAN** – Brant, **BRBL** – Brewer's blackbird, **BRPE** – Brown pelican, **CAGU** – California Gull, **CCGO** – Canada goose, **CLSW** – Cliff swallow, **CORA** – Common raven, **DCCO** – Double-crested cormorant, **GBHE** – Great blue heron, **GREG** – Great egret, **GRHE** – Green heron, **HEEG** - Heermann's Gull, **KILL** – Killdeer, **LBCU** – Long-billed curlew, **MALL** – Mallard, **NOHA** – Northern harrier, **NOMO** – Northern mockingbird, **OSPR** – Osprey, **PECO** – Pelagic cormorant, **PIGU** – Pigeon guillemot, **RNPH** – Red-necked phalarope, **RSHA** – Red-shouldered hawk, **RWBL** – Red-winged blackbird, **SAND** – Sanderling, **SAPH** – Say's phoebe, **SNEG** – Snowy Egret, **SOSP** – Song sparrow, **TUVU** – Turkey vulture, **WEGU** – Western gull, **WHIM** – Whimbrel, **WESA** – Western sandpiper

Appendix 3 (cont.). Avian Wildlife Impact Data, January 1, 2022 – June 30, 2022

Tour Date	Day	Species Present	Species Flushed
1/2/22*	Thursday	-	-
1/8/22*	Saturday	-	-
2/3/22*	Thursday	-	-
2/12/22*	Saturday	-	-
3/3/22*	Thursday	-	-
3/12/22*	Saturday	-	-
3/17/22*	Thursday	-	-
3/26/22*	Saturday	-	-
4/7/22**	Thursday	AMCO, BRCO, CAGO, CAGU, MALL	-
4/9/22**	Sunday	AMWI, BRCO, CAGO, MALL, PIGU, WEGU, WHIM	-
4/21/22**	Thursday	AMWI, BRCO, CAGO, MALL, PIGU, WEGU, WHIM	-
4/23/22**	Saturday	BARS, BRCO, BLPH, CAGO, CORA, MALL, WEGU, SNEG, WHIM	-
5/5/22**	Thursday	BLPH, BRCO, CAGO, CAGU, KILL, PECO, WEGU -	KILL
5/14/22**	Saturday	GBHE, BRCO, PECO, WEGU, RTHA, MALL, YELE, RNFA, WHIM, PIGU, WEGU	-
5/19/22**	Thursday	BARS, BLPH, BRCO, BRPE, PIGU, VGSW, WEGU	-
5/28/22	Saturday	WEGU, BRCO, PECO, BASW, TUVU, AMCR, BRPE, PIGU, BLPH	TUVU
6/2/22	Thursday	BRCO, BRPE, WEGU	BRPE, WEGU
6/11/22	Saturday	BLPH, BRCO, CAGU, CORA, DCCO, HEEG, WEGU	BLPH, CAGU, WEGU
6/16/22	Thursday	BARS, BLPH, BRCO, CAGU, CLSW, COMU, PECO, PIGU, WEGU	WEGU
6/25/22	Saturday	BARS, BLPH, BRCO, PIGU, SAPH, WEGU	WEGU

*1/6/22 - 3/26/22 – Canceled due to COVID-19 impacts. No biological data collected.
** 4/7/22, 4/9/22, 4/21/22, 4/23/22, 5/5/22, 5/14/22, 5/19/22 – No birds flushed.

AMCO – American coot, **AMCR** – American crow, **AMRO** – American robin, **AMWI** – American whimbrel, **BARS** – Barn swallow, **BEWR** -Bewick's wren, **BHCO** – Brown-headed cowbird, **BLOY** – Black oystercatcher, **BLPH** – Black phoebe, **BRCO** – Brand's cormorant, **BRAN** – Brant, **BRBL** – Brewer's blackbird, **BRPE** – Brown pelican, **CAGU** – California Gull, **CCGO** – Canada goose, **CLSW** – Cliff swallow, **CORA** – Common raven, **DCCO** – Double-crested cormorant, **GBHE** – Great blue heron, **GREG** – Great egret, **GRHE** – Green heron, **HEEG** – Heermann's gull, **KILL** – Killdeer, **LBCU** – Long-billed curlew, **MALL** – Mallard, **NOHA** – Northern harrier, **NOMO** – Northern mockingbird, **OSPR** – Osprey, **PECO** – Pelagic cormorant, **PIGU** – Pigeon guillemot, **RNPH** – Red-necked phalarope, **RSHA** – Red-shouldered hawk, **RWBL** – Red-winged blackbird, **SAND** – Sanderling, **SAPH** – Say's phoebe, **SNEG** – Snowy Egret, **SOSP** – Song sparrow, **TUVU** – Turkey vulture, **WEGU** – Western gull, **WHIM** – Whimbrel, **WESA** – Western sandpiper

Appendix 3 (cont.). Avian Wildlife Impact Data, July 1, 2021 – December 31, 2021

Tour Date	Day	Species Present	Species Flushed
7/1/21*	Thursday	-	-
7/11/21*	Sunday	-	-
7/15/21*	Thursday	-	-
7/25/21*	Sunday	-	-
8/5/21*	Thursday	-	-
8/8/21*	Sunday	-	-
8/19/21*	Thursday	-	-
8/22/21*	Sunday	-	-
9/2/21*	Thursday	-	-
9/12/21*	Sunday	-	-
9/16/21*	Thursday	-	-
9/26/21*	Sunday	-	-
10/7/21*	Thursday	-	-
10/10/21*	Sunday	-	-
11/4/21*	Thursday	-	-
11/14/21*	Sunday	-	-
12/2/21*	Thursday	-	-
12/5/21*	Sunday	-	-
2021 TOTAL	-	-	-

*7/1/21 – 12/5/21 – Canceled due to COVID-19 impacts. No biological data collected.

Appendix 3 (cont.). Avian Wildlife Impact Data, January 1, 2021 – June 30, 2021

Tour Date	Day	Species Present	Species Flushed
1/7/21*	Thursday	-	-
1/10/21*	Sunday	-	-
2/4/21*	Thursday	-	-
2/14/21*	Sunday	-	-
3/4/21*	Thursday	-	-
3/14/21*	Sunday	-	-
3/18/21*	Thursday	-	-
3/28/21*	Sunday	-	-
4/1/21*	Thursday	-	-
4/11/21*	Sunday	-	-
4/15/21*	Thursday	-	-
4/25/21*	Sunday	-	-
5/6/21*	Thursday	-	-
5/9/21*	Sunday	-	-
5/20/21*	Thursday	-	-
5/23/21*	Sunday	-	-
6/3/21*	Thursday	-	-
6/13/21*	Sunday	-	-
6/17/21*	Thursday	-	-
6/27/21*	Sunday	-	-

*1/4/21 - 6/27/21 – Canceled due to COVID-19 impacts. No biological data collected.

Appendix 3 (cont.). Avian Wildlife Impact Data, July 1, 2020 – December 31, 2020

Tour Date	Day	Species Present	Species Flushed
7/2/20*	Thursday	-	-
7/12/20*	Sunday	-	-
7/16/20*	Thursday	-	-
7/26/20*	Sunday	-	-
8/6/20*	Thursday	-	-
8/9/20*	Sunday	-	-
8/20/20*	Thursday	-	-
8/23/20*	Sunday	-	-
9/3/20*	Thursday	-	-
9/13/20*	Sunday	-	-
9/17/20*	Thursday	-	-
9/27/20*	Sunday	-	-
10/1/20*	Thursday	-	-
10/11/20*	Sunday	-	-
11/5/20*	Thursday	-	-
11/8/20*	Sunday	-	-
12/3/20*	Thursday	-	-
12/6/20*	Sunday	-	-
2020 TOTAL	-	-	-

*7/2/20 - 12/6/20 – Canceled due to COVID-19 impacts. No biological data collected.

Appendix 3 (cont.). Avian Wildlife Impact Data, January 1, 2020 – June 30, 2020

Tour Date	Day	Species Present	Species Flushed
1/2/20	Thursday	AMCO, AUWA, BLPH, BRCO, GCSP, MALL, NOHA, PIGU, SAPH, WEGU	BLPH, AUWA
1/12/20*	Sunday	AMCO, BLPH, BRCO, CAGO, COHA, GREG, MALL, PECO, SAPH, SNEG, WEGU	-
2/6/20	Thursday	BRCO, SNEG, WEGU	SNEG
2/9/20*	Sunday	BRCO, GREG, WEGU	-
3/5/20	Thursday	CAGO, GREG, MALL, PECO	MALL
3/8/20	Sunday	AMCO, BRCO, CAGO, CITE, MALL, SNEG, WHIM	BRCO, CITE, MALL, SNEG
3/19/20**	Thursday	-	-
3/22/20**	Sunday	-	-
4/2/20**	Thursday	-	-
4/5/20**	Sunday	-	-
4/16/20**	Thursday	-	-
4/26/20**	Sunday	-	-
5/7/20**	Thursday	-	-
5/10/20**	Sunday	-	-
5/21/20**	Thursday	-	-
5/24/20**	Sunday	-	-
6/4/20**	Thursday	-	-
6/14/20**	Sunday	-	-

* 1/12/20 and 2/9/20 - No birds flushed.

**3/19/20 - 6/28/20 – Tours canceled due to COVID-19 impacts. No biological data collected.

AMCO – American coot, **AMCR** – American crow, **AMRO** – American robin, **AMWI** – American whimbrel, **AUWA** – Audubon's warbler, **BARS** – Barn swallow, **BHCO** – Brown-headed cowbird, **BLOY** – Black oystercatcher, **BLPH** – Black phoebe, **BRCO** – Brand's cormorant, **BRAN** – Brant, **BRBL** – Brewer's blackbird, **BRPE** – Brown pelican, **CAGU** – California Gull, **CCGO** – Canada goose, **CITE** – Cinnamon Teal, **CLSW** – Cliff swallow, **CORA** – Common raven, **GBHE** – Great blue heron, **GREG** – Great egret, **GRHE** – Green heron, **KILL** – Killdeer, **MALL** – Mallard, **NOHA** – Northern harrier, **NOMO** – Northern mockingbird, **PECO** – Pelagic cormorant, **PIGU** – Pigeon guillemot, **RNPH** – Red-necked phalarope, **RSHA** – Red-shouldered hawk, **RWBL** – Red-winged blackbird, **SAND** – Sanderling, **SAPH** – Say's phoebe, **SNEG** – Snowy Egret, **SOSP** – Song sparrow, **TUVU** – Turkey vulture, **WEGU** – Western gull, **WESA** – Western sandpiper

Appendix 3 (cont.). Avian Wildlife Impact Data, April 14, 2019 – June 30, 2019

Tour Date	Day	Species Present	Species Flushed
4/14/19	Sunday	AMCO, BLOY, BRCO, CCGO, GREG, MALL, SNEG, WEGU	BLOY, CCGO, MALL
4/18/19	Thursday	BLOY, BRCO, MALL, SNEG, SOSP, WEGU	BLOY, MALL, SNEG
5/2/19	Thursday	CCGO, BRBL, GREG, KILL, MALL, RSHA, WEGU	BRBL, CAGO, GREG, MALL, WEGU
5/5/19*	Sunday	No tour	No tour
5/12/19	Sunday	MALL, NOMO RNPH, WEGU, WESA	WESA
5/16/19	Thursday	BLPH, BRCO, GREG, KILL, MALL, RNPH, WEGU	MALL
6/2/19	Sunday	BARS, BLPH, MALL, PIGU, WEGU, WESA	BLPH, MALL WESA
6/6/19	Thursday	AMRO, BARS, BLPH, BRCO, BRBL, CAGO, CLSW, GREG, MALL, PECO, PIGU, WEGU	CAGO, GREG, PIGU, WEGU
6/9/19	Sunday	BARS, BLPH, BRCO, KILL, PIGU, RWBL, SOSP, WEGU	BARS, BLPH, PIGU, RWBB
6/20/19	Thursday	AMCR, BARS, BLPH, BRCO, PIGU, WEGU	BLPH, PIGU, WEGU

*5/5/19 - No tour; no participants

AMCO – American coot, **AMCR** – American crow, **AMRO** – American robin, **AMWI** – American whimbrel, **BARS** – Barn swallow, **BHCO** – Brown-headed cowbird, **BLOY** – Black oystercatcher, **BLPH** – Black phoebe, **BRCO** – Brand's cormorant, **BRAN** – Brant, **BRBL** – Brewer's blackbird, **BRPE** – Brown pelican, **CAGU** – California Gull, **CCGO** – Canada goose, **CLSW** – Cliff swallow, **CORA** – Common raven, **GBHE** – Great blue heron, **GREG** – Great egret, **GRHE** – Green heron, **KILL** – Killdeer, **MALL** – Mallard, **NOHA** – Northern harrier, **NOMO** – Northern mockingbird, **PECO** – Pelagic cormorant, **PIGU** – Pigeon guillemot, **RNPH** – Red-necked phalarope, **RSHA** – Red-shouldered hawk, **RWBL** – Red-winged blackbird, **SAND** – Sanderling, **SAPH** – Say's phoebe, **SNEG** – Snowy Egret, **SOSP** – Song sparrow, **TUVU** – Turkey vulture, **WEGU** – Western gull, **WESA** – Western sandpiper

Appendix 3 (cont.). Avian Wildlife Impact Data, July 1, 2019 – December 31, 2019

Tour Date	Day	Species Present	Species Flushed
7/7/19	Sunday	BARS, BHCO, BRPE, GREG, WEGU	GREG, WEGU
7/11/19	Thursday	CAGU, CORA, NOHA, PECO, PIGU, WEGU	PECO
7/14/19	Thursday	AMCR, CAGU, PECO, WEGU	WEGU
7/18/19	Thursday	AMCO, BARS, CLSW, WEGU	WEGU
8/1/19	Thursday	CORA, MALL, PECO, RNPH, SNEG	MALL, RNPH
8/4/19	Sunday	GBHE, PIGU, SNEG, WEGU	GBHE, SNEG
8/11/19	Sunday	GBHE, GREG, PECO, RNPH, SNEG, WESA	GREG, WESA
8/15/19	Thursday	BARS, GBHE, GREG, PECO, WESA	GBHE, GREG
9/1/19	Sunday	CAGU, PECO, SNEG	SNEG
9/5/19	Thursday	BLPH, GREG, PECO, SNEG, WEGU	GREG, SNEG
9/8/19	Sunday	NOHA, PECO, SAND, WEGU, WHIM	NOHA
9/19/19	Thursday	GREG, GRHE, PECO, RNPH, RTHA, SAND, WEGU	GRHE, PECO, RTHA
10/3/19	Thursday	BLPH, BRPE, CAGU, KILL, PECO, SAPH, SNEG, WHIM	BLPH, CAGU, SAPH, SNEG
10/13/19	Sunday	BLPH, NOHA, PECO, SOSH, WEGU	NOHA
11/7/19	Thursday	AMWI, BLPH, BRAN, PECO, RTHA, SAPH, WEGU	BLPH, RTHA
11/10/19*	Sunday	CLSW, PECO, TUVU	-
12/1/19**	Sunday	-	-
12/9/19	Thursday	AMWI, BLPH, BRPE, PECO, SNEG, WEGU	BLPH

* 11/10/19 – No birds flushed.
*12/1/19 – No biological data collected.

AMCO – American coot, **AMCR** – American crow, **AMRO** – American robin, **AMWI** – American whimbrel, **BARS** – Barn swallow, **BHCO** – Brown-headed cowbird, **BLOY** – Black oystercatcher, **BLPH** – Black phoebe, **BRCO** – Brand's cormorant, **BRAN** – Brant, **BRBL** – Brewer's blackbird, **BRPE** – Brown pelican, **CAGU** – California Gull, **CCGO** – Canada goose, **CLSW** – Cliff swallow, **CORA** – Common raven, **GBHE** – Great blue heron, **GREG** – Great egret, **GRHE** – Green heron, **KILL** – Killdeer, **MALL** – Mallard, **NOHA** – Northern harrier, **NOMO** – Northern mockingbird, **PECO** – Pelagic cormorant, **HEEG** - Heermann's Gull, **PIGU** – Pigeon guillemot, **RNPH** – Red-necked phalarope, **RSHA** – Red-shouldered hawk, **RWBL** – Red-winged blackbird, **SAND** – Sanderling, **SAPH** – Say's phoebe, **SNEG** – Snowy Egret, **SOSP** – Song sparrow, **TUVU** – Turkey vulture, **WEGU** – Western gull, **WESA** – Western sandpiper

Appendix 4. Paid Advertisement Documentation January 1 – June 30, 2025

Figure 18. Paid advertisement that ran in the Good Times Weekly during this reporting period.

Figure 19. Paid advertisement that ran in the Santa Cruz Sentinel during this reporting period.

90.3 kazu

npr for Monterey · Salinas · Santa Cruz
A Service of Cal State Monterey Bay

PO Box 310
Marina, CA 93933
Phone (831)-582-5298

INVOICE 143715

Contract 30-00554881-003
Contract Date 02/12/25
Billing Date 03/31/25

CLAUDIA MACFARLAND
YOUNGER LAGOON RESERVE
100 MC ALLISTER WAY
SANTA CRUZ, CA 95060

Younger Lagoon - 2025 Annual
Thank you for Underwriting with KAZU, we appreciate your business! Please note our PO Box mailing address for payments and

Aired Spots 3/1/2025 thru 3/31/2025 PO # LCD 2.11.2025

Description	*Day*	*Date*	*Time*	*Copy*	*Dura*	*Amount*
Younger Lagoon - March 2025	Mon	03/10/25	12:06:15p	127144	15	30.00
	Tue	03/11/25	2:06:00p	127144	15	30.00
	Tue	03/11/25	2:06:15p	127144	15	30.00
	Wed	03/12/25	7:59:30a	127144	15	30.00
	Thu	03/13/25	11:50:45a	127144	15	30.00
	Thu	03/13/25	3:18:30p	127144	15	30.00
	Fri	03/14/25	3:29:45p	127144	15	30.00
Younger Lagoon - March Wknd	Sat	03/15/25	8:39:00a	127144	15	30.00
	Sat	03/15/25	10:18:15a	127144	15	30.00
	Sun	03/16/25	10:17:50a	127144	15	30.00

Total Number of Spots 10

Net Total Due	300.00
Amount Paid This Period	$0.00
Previous Amount Billed	$0.00
Previous Amount Paid	$0.00
Amount Due to Keep Contract Current	**$300.00**

Original Contract Amount $1,200.00 *Payments Are Monthly Per Credit*

PLEASE NOTE OUR NEW MAILING ADDRESS FOR PAYMENTS

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Figure 20. Invoice for KAZU radio announcements during this reporting period.

Fig 3.11 Biotic Resources

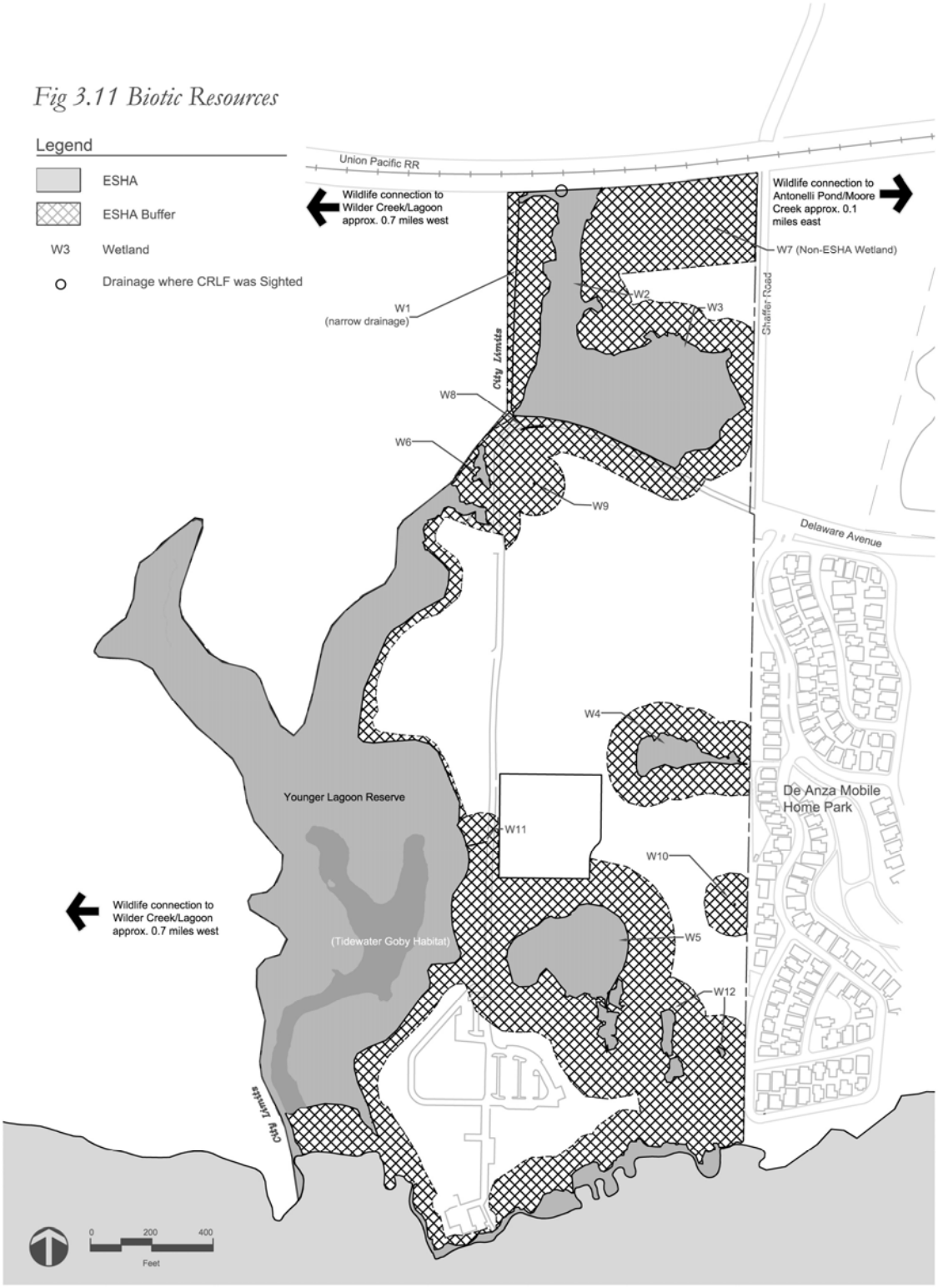

Fig. 5.6 Coastal Access and Recreation Diagram